DOCUMENT RESUME

ED 274 163 FL 016 001

AUTHOR Siu Kwai-Peng
TITLE The Effects of Mode on Syntactic and Rhetorical Complexity for EFL Students at Three Grade Levels.
PUB DATE Jul 86
NOTE 218p.; Master's Thesis, Chinese University of Hong Kong.
PUB TYPE Dissertations/Theses - Master Theses (042) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC09 Plus Postage.
DESCRIPTORS Age Differences; College Students; Comparative Analysis; *Difficulty Level; Discourse Analysis; *English (Second Language); Foreign Countries; Higher Education; High School Students; Narration; Persuasive Discourse; *Rhetoric; Secondary Education; *Syntax; *Writing Skills
IDENTIFIERS Hong Kong

ABSTRACT

This in-depth study explores problem areas of Hong Kong secondary and university students in writing narrative and argumentative compositions on two different themes. Subjects were 40 university English majors, 40 form four and 40 form six secondary students. The research indicates that the students at these grade levels experienced difficulty in handling the argumentative mode at the syntactic and rhetorical levels. The investigation concludes that students of English as a foreign language have not been taught the necessary rhetorical skills to write argumentative compositions and suggests that this useful academic skill be consciously taught in the classroom. A description of the procedures, tasks, and results of the study as well as statistical tables and figures are included. (TR)

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ED274163

THE EFFECTS OF MODE ON SYNTACTIC AND RHETORICAL COMPLEXITY FOR EFL STUDENTS AT THREE GRADE LEVELS

A Thesis

Submitted to the Division of English

of the Graduate School

of the Chinese University of Hong Kong

In Partial Fulfillment

of the Requirements for the Degree of

Master of Philosophy

By

SIU Kwai-Peng

July, 1986

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Acknowledgements

I would like to express my sincere thanks to the following people:

To my thesis committee: I wish to thank Dr. Margaret van Naerssen, my supervisor, Mr. William Cheng and Mr. John N. Dent-Young for their willingness to discuss any problems that came up during the entire process of this study and for their reading the first and second draft of this thesis. Special thanks goes to my supervisor for her useful guidance on this thesis. I would also like to thank Mr. William Cheng for helping me to get the secondary school subjects and to audit a computer course, from which I learnt how to use the SPSSX statistics package to analyze the data myself with the computer.

To the visiting Fulbright Professor Robert B. Kaplan of the University of the Southern California: I particularly wish to thank Professor Kaplan for his valuable and indispensable advice, his deep concern about this study and his constant encouragement. He made constructive suggestions and comments about my research analysis framework, especially pointing out the necessity of examining my research problem from the rhetorical level. He also helped me in the marker training and provided feedback to the preliminary and final work of this thesis.

Thanks goes to those members of the Division of English of the Graduate School who contributed to my growth in the field of TESOL, to the teaching staff of the English Department and the English Language

Teaching Unit as well as those scholars in other institutions who were interested in my study and graciously helped in various stages of this project. Especially I am grateful to Dr. Cheung Yat Shing for his advice, to Mr. Joseph H.W. Hung for his help in getting the university English majors as my subjects and for his willingness to discuss with me some problems I came across, and to Dr. Herbert Pierson and Mr. Brian C. Blomfield. A special debt of gratitude is due to Mr. Yu Fong-Ying, my former statistics lecturer, for his constant help in my research design and statistics problems. Special thanks also goes to Mr. C. M. Chung and Dr. P.K. Siu, lecturers in the School of Education at the Chinese University of Hong Kong for their guidance in my computer procedures and statistics knowledge.

Thanks goes to the Principal of Baptist Lui Ming Choi Secondary School, Chan Kin-Hung, and the English panel chairwoman Lee Yuk Mui for their kind assistance and co-operation in getting their F.6 and F.4 students to write compositions for this study. Thanks also go to the English teachers of the two grades for their assistance in collecting writing samples.

Thanks goes to the three composition markers and the subjects in the study. Special thanks goes to Allen Hirvela who gave up five days' leisure time to mark compositions for this study.

Thanks goes to my friends. I am grateful to a number of my friends, most especially to Chu Yuen-sing for his care and support, as well as his indispensable assistance in typing the thesis draft.

Abstract

This study was designed to investigate the effect of grade , mode and theme on syntactic and rhetorical complexity among Hong Kong students at three grade levels. The design of this study involved having 40 university English majors, 40 Form Four and 40 Form Six secondary students write compositions in two modes. Each of them had to write two essays: one narrative and one argumentative. The order of mode was counter-balanced. The two essays written by the same student were on the same theme. Half of the students at each grade wrote on the theme of "New Year" while the other half wrote on the theme of "cycling."

The investigation was carried out using five measures, three of which were measures of syntactic complexity and the other two were measures of rhetorical complexity. The three syntactic measures included mean T-unit length, mean clause length, and clauses per T-unit; the two rhetorical measures included the total number of six types of subordinate clauses, and the number of types of subordinate clauses used.

The major findings of this study show that:

1) The variations in mean T-unit length among the three grades of students in this study are significantly different in response to different themes or modes. However, the differences in mean clause length and clauses per T-unit among the three grades of students are not significantly affected by different themes or modes.

2) The syntactic complexity in the argumentative essays written by university English majors is significantly greater than that in their narrative essays.

3) The syntactic complexity in the argumentative essays written by F.4 and F.6 students is significantly greater than that in their narrative essays.

4) The rhetorical complexity in the argumentative essays written by university English majors is significantly greater than that in their narrative essays.

5) The rhetorical complexity in the argumentative essays written by F.4 and F.6 students is not significantly greater than that in the narrative essays.

6) Findings 2), 3), 4) and 5) seem to suggest that sentence-level syntactic complexity of the argumentative mode as measured by Hunt's three indices is easier for low-writing-proficiency students to achieve, whereas it appears to require a much longer period of effective exposure to the target language and the acquisition of thinking skills necessary for the writing of this mode to achieve the greater rhetorical complexity of it as measured by the total number of six types of subordinate clauses.

7) All university English majors, F.6 and F.4 students wrote significantly more adverb clauses of condition and concession in the argumentative than in the narrative mode, but all wrote significantly more adverb clauses of time in the narrative than in the argumentative mode. University English majors distinguished themselves from F.4 and F.6 students by using significantly more relative clauses in the argumentative than in the narrative mode.

This research suggests several thinking/writing skills necessary to argumentation, and shows that the argumentative mode requires skills which are different from those of the narrative mode, and that Form Four and Form Six secondary students, for whatever reason, do not seem to have these skills. If argumentation is viewed by educational system as constituting a useful academic skill, it follows that the thinking/writing skills and rhetorical structure of argumentation need to be effectively taught.

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Chapter 1
Introduction

This chapter includes six sections. Section 1 introduces the background and the problem related to this present study. Section 2 briefly describes the purpose of doing this research. Section 3 points out the significance of this study. Section 4 gives a description of the research design. Section 5 defines the terms used in this study, while section 6 gives an overview of this report.

1.1 Background and the problem:

Composition researchers, bent on measuring syntactic maturity, have largely ignored the possibility that syntax might vary for more than one reason. As a result, they collected their writing samples fairly unsystematically. For example, Hunt's criterion in his 1965 study seemed to be only grade level. Loban (1953) and Christensen (1967) did the same with the written language in their studies. This kind of technique can produce language samples biased in favor of one type of discourse. Any maturity norms based on findings from such studies are at least questionable and at worst damaging. They are questionable because it is not known whether they apply to the full discourse spectrum, or to one type of writing. And if it is one type of writing, which kind is it? These norms could, furthermore, be damaging if used to assess students' syntactic maturity, because, as later studies (e.g., San Jose 1973, Perron 1976, Crowhurst and Piche 1978, Crowhurst 1978, Watson 1979, Combs 1980) show, mode of discourse or theme also has significant effect on syntactic complexity.

Researchers studying the effect of mode of discourse also point out both inexperienced native and foreign language writers have great difficulty handling the argumentative mode (e.g., Veal and Tillman 1971, San Jose 1973, Rubin and Piche 1979, Freedman and Pringle 1979, Jones 1981, Hidi and Hildyard 1983, Prater and Padia 1983, Crowhurst 1983, Mohan and Au-Yeung Lo 1985). The finding that the argumentative mode is more difficult than the narrative one may be the result of a number of different causes. However, the previous studies did not mention in what areas this mode poses difficulties for inexperienced writers. For example, Crowhurst (1978) concluded her study by saying that the greater syntactic complexity of the argumentative mode may be due to the complex nature of argument, but she did not go on to explain what that complex nature was.

Thus, one of the purposes of this present study is to explore the area which the previous syntactic studies have left unanswered; that is, in what way(s) the argumentative mode poses problems for inexperienced writers. It is suspected the difficulties may lie beyond the sentence level. Enkvist pointed out the importance for research to go beyond the sentence level. He said,

> ...many of the forces affecting the forms of sentences (for instance, many of the forces triggering off transformations) actually reside in the text or in the situational context, not within the sentence itself. If we want to explain how a

> sentence links up with its textual and situational environment, and thus why a sentence looks the way it does, we must inevitably go beyond that sentence and try to study the textual and interactional forces that have shaped it...(1986:19).

Constantinides and Hall (1981), Mckay (1981) and Carrell (1986) have all suggested that top-level rhetorical structure should be taught in composition class. The rhetorical organization of the argumentative mode has been delineated by some rhetoricians. For example, Candlin and Lotfipour-Saedi (1980), Lautamatti (1986), Connor(1986) and Kaplan (1986a) described the rhetorical organization of the argumentative mode as hierarchical with sub-topics supporting each higher-order topic.

Thus, the present study hypothesized that one of the difficult areas for inexperienced writers when they are handling the argumentative mode lies in the level of rhetorical organization apart from that of syntax.

1.2 Purposes of this present study:

There are three purposes in this study:

Purpose 1) To see whether mode of discourse or theme can significantly affect the differences in syntactic complexity among Hong Kong students at three grade levels.

Hypothesis 1) Variations in syntactic complexity among Hong Kong students at three grade levels will be significantly different in response to different modes or themes.

Purpose 2) to see whether students within each of the three grades in Hong Kong, where English is learnt as a foreign language, will show significant differences in syntactic complexity across the argumentative and narrative mode.

Hypothesis 2) The syntactic complexity in the argumentative essays written by university English majors will be significantly greater than that in their narrative essays.

Hypothesis 3) The syntax in the argumentative essays written by Form 4 and Form 6 students will <u>not</u> be significantly more complex than that in their narrative essays.

Purpose 3) to see whether rhetorical complexity is one of the difficult areas for Form Four and Form Six students.

Hypothesis 4) The rhetorical organization in the argumentative essays written by university English majors will be significantly more complex than that in their narrative essays.

Hypothesis 5) The rhetorical organization in the argumentative essays written by Form Four and Form Six students will <u>not</u> be significantly more complex than that in their narrative essays.

1.3 Significance of this study:

This study is an exploration of how Hunt's three syntactic measures (1965) work when used among Hong Kong Form Four , Form Six secondary students and university English majors writing in two modes of discourse and in two themes. The written syntactic complexity of foreign language learners may be quite different from that of native language learners. For example, the English teacher of the Form Six subjects in this study, Lee Yuk-Mui, said students had been taught to write simple English under the concept of "simple English is good English"[1]. Therefore, the behaviour of the EFL students may differ from that of students whose native language is English.

Moreover, this present study, as far as the present researcher knows, is the first attempt to explore in which aspect(s) EFL students have difficulties with the argumentative mode and to link up the relationship between syntactic complexity and rhetorical complexity.

In formulating its analytic framework, the present study takes advantage of the previous finding that the greater syntactic complexity of the argumentative mode may be due to the complex nature of argument. This analytic approach is mainly syntactic. However, the analytic framework of this study goes beyond the syntactic level and examines the issue from the rhetorical level as well .

This study attempted to control other factors which might affect syntactic complexity apart from grade, mode, or theme. First, subject matter in each composition was neutralized as a variable by providing a story outline and argument points. Second, the themes of the argumentative and narrative modes were designed in such a way that they were the same across modes, so that the confusion of whether the syntactic differences were caused by mode or by theme could be minimized. Third, the variable of target audience (that is, for whom the students were writing) was also controlled. Finally topic familiarity, topic interest, student writers' motivation and their difficulty in getting writing ideas were also considered in designing writing tasks for this study. To see how student writers actually perceived the writing tasks in terms of the above four dimensions, a questionnaire was given for them to fill in after each composition (see Appendix 3).

1.4 Design of the study:

A total of 120 students participated in this study--40 university English majors, 40 Form Six students and 40 Form Four students. Each subject wrote two essays--one in the argumentative and one in the narrative mode. There were two themes for the writing tasks. Half of the students at each grade wrote about "Chinese New Year" while the other half wrote about "cycling." The relationship between theme and mode was that under each theme, there were two modes. The design is shown in Table 1.

Table 1

Relationship between theme and mode

	Theme 1 (Chinese New Year)		Theme 2 (Cycling)		
	Argu-ment	Narra-tion	Argu-ment	Narra-tion	Total
University					
English majors	20	20	20	20	80
Form Four	20	20	20	20	80
Form Six	20	20	20	20	80
Total	60	60	60	60	240

Each composition was subjected to a syntactic analysis of the whole composition, whereas the first 240-260 words were subjected to an analysis of rhetorical complexity. Since longer compositions may provide chances for the occurrence of more subordinate clauses, it is necessary to limit the length of each composition.

1.5 Definitions of terms used in this study:

The following five terms are defined in this section:

1.5.1 Mode of discourse

1.5.2 Grade

1.5.3 Theme

1.5.4 Syntactic complexity

1.5.5 Rhetorical complexity

1.5.1 Mode of discourse:

Narration:

Narration is one of the four modes of discourse (narration, description, argument, and exposition) included in the examination syllabus of the Hong Kong Certificate of Education Examination. In this study, the purpose of writing the narrative mode is to catch the reader's interest by telling an interesting story.

Argument:

Argument is one of the four modes of discourse mentioned above. The purpose of writing this mode is to convince the reader of the writer's viewpoint through logical reasoning.

1.5.2 Grade:

Under the Hong Kong educational system, there are six years in the primary school stage, that is, from Primary One to Primary Six. Then students move on to the secondary stage which is five years long, that is, from Form One to Form Five. After Form Five, students can choose to

study either in one year or in two years' matriculation course. The aim of the former is to enter the Chinese University of Hong Kong, which provides four years' education, whereas that of the latter is to enter Hong Kong University, which provides three years' education. Grade here refers to the Form Four, Form Six secondary students and the third and fourth year English majors at the Chinese University of Hong Kong. It is assumed that students in higher grades have better cognitive development and longer exposure to the target language.

1.5.3 Theme:

Theme here refers to the general area a composition topic is about. For example, there are two themes in the design of this study. One is about "Chinese New Year" , and the other is about "cycling". Under each theme, there are two composition topics in two modes. For example, under the theme of "Chinese New Year", one composition topic is to tell a story which centers around the reunion dinner, one of the traditional customs on Chinese New Year Eve. The other topic is to argue whether the traditional customs in Chinese New Year should be abolished or not. Under the theme of "cycling", one topic is to tell a story which centers around a traffic accident caused by cycling without a licence. The other topic is to argue whether a cyclist should have a licence or not before he/she is allowed to ride in the countryside or in the urban area.

1.5.4 Syntactic complexity:

Syntactic complexity is defined as mean T-unit length, mean clause length, and clauses per T-unit. These three syntactic measures were first proposed by Hunt in 1965.

Mean T-unit length (MTL)

Hunt did not define T-unit rigorously, but said that

> It is convenient to think of a T-unit as one main clause expanded at any of many different points by structures that are modifiers or complements or substitutes for words in the main clause. Short main clauses can be expanded by incorporation into them of either subordinate clauses or non-clauses (1965:41).

That is to say, a T-unit contains only one single clause with or without other clausal or non-clausal structures that are embedded in it or attached to it. In fact, "T-units are the shortest grammatical allowable sentences into which a paragraph can be segmented" (Hunt 1965:35).

Mean clause length (MCL):

Hunt (1965) defined a clause as follows:

> A clause is taken to be a structure with a subject and a finite verb (a verb with a tense marker). If the subjects or any part of the verb phrase were coordinated they merely lengthened the clause, and if any part of the verb phrase was coordinated, they also lengthened the clause. The whole thing was considered as one clause (1965:28).

To illustrate Hunt's concept of T-units and clauses, a 70-word long sentence written by a fourth grader in his 1965 study is repeated below and segmented into T-units and clauses.

> I like the movie we saw about Moby Dick the white whale the captain said if you can kill the white whale Moby Dick I will give this gold to the one that can do it and it is worth sixteen dollars they tried and tried but while they were trying they killed a whale and used the oil for the lamps they almost caught the white whale (1965:11).

First T-unit: I like the movie we saw about Moby Dick, the white whale.

Second T-unit: The captain said if you can kill the white whale, Moby Dick, I will give this gold to the one that can do it.

Third T-unit: And it is worth sixteen dollars.

Fourth T-unit: They tried and tried.

Fifth T-unit: But while they were trying they killed a whale and used the oil for the lamp.

Sixth T-unit: They almost caught the white whale.

(1965:11)

As can be seen in this example, the T-unit preserves the subordination achieved by the writer but not the coordination between main clauses (or T-units). Hunt excludes between T-unit coordination from his maturity

index because of the young writers' "tendency to string T-units together endlessly with *and* after *and,* forgetting to put in a period. In fact, coordination between T-units is an index of immaturity..."(1965:37). This way of segmentation is followed in the present research.

Hunt's concept of clause is illustrated as follows: the first T-unit contains two clauses. The second T-unit contains four clauses. The third T-unit contains one clause. The fourth T-unit contains one clause. The fifth T-unit contains two clauses. The fourth and fifth T-units are examples illustrating that coordinated verbs are treated as one clause. The last T-unit contains one clause.

Clauses per T-unit (CPT):

This is defined as the number of all clauses (both subordinate and main) divided by the number of T-units or, since the number of main clauses is identical with the number of T-units, the ratio is equal to the number of all clauses divided by the number of main clauses.

1.5.5 Rhetorical complexity:

Rhetorical complexity is defined as the total number of six types of subordinate clauses and the number of types of subordinate clauses used.

The total number of six types of subordinate clauses (TSC):

Noun clauses:

Noun clauses are counted as the grammatical realization of the writing skill which is to state the writer's viewpoints, to cite other people's opinion, to state suggestions, beliefs, etc.

Relative clauses:

Relative clauses are counted as the grammatical realization of the writing skill which is to add important information to the head noun.

Adverb clauses of cause and consequence:

Adverb clauses of cause and consequence are counted as the grammatical realization of the writing skill which is to state cause and consequence of certain actions, ideas, etc.

Adverb clauses of condition and concession:

Adverb clauses of condition and concession are counted as the grammatical realization of the writing skill which is to state condition and concession of certain actions, ideas, etc.

Adverb clauses of time:

Adverb clauses of time are counted as the grammatical realization of the writing skill which is to state the timing of certain actions, ideas, etc.

Adverb clauses of purpose:

Adverb clauses of purpose are counted as the grammatical realization of the writing skill which is to state the purposes of certain actions, ideas, etc.

Only these six types of subordinate clauses were counted in this study because they were assumed to be the types of subordinate clauses that are most commonly used by Hong Kong student writers. Of course, other types of subordinate clauses (e.g., comparison clauses) also appeared in their writing, but the numbers of them might not be large enough for valid statistical analysis. For example, the number of adverb clauses of purpose which actually appeared in the essays written by the subjects of this study turned out to be too small for valid statistical analysis.

The number of types of subordinate clauses used (NT):

This measure is designed to count how many types of subordinate clauses a writer used in his/her composition. Again, only those subordinate clauses which fell into the above six types were counted.

Of course, one may argue that the above six writing skills can also be expressed through phrase structures (e.g., using because of instead of because), through the use of coordinative conjunctions, adverbials, or even without any explicit cohesive devices (e.g., by picking up the last element of the previous sentence as the subject of the next sentence). These arguments are valid. However, owing to the time limitation, these possible structures had to be excluded in the analysis. Another reason for counting only clauses is that the three measures of syntactic complexity devised by Hunt (1965) also concern only clauses; to see the correlation between syntactic complexity and rhetorical complexity, it seems more proper to use "clause" as a unit in both syntactic and rhetorical complexity. Consequently, the findings of this study are applicable only to those writing skills expressed

in clause structures. The analysis of the role of phrases, coordinative conjunctions, adverbials and implicit coherent devices in expressing the six writing skills will have to be subjected to further research.

1.6) Overview of this report:

Each of the following chapters elaborates upon the assertions and questions in this chapter. Chapter 2 expands the references to the previous related studies. Chapter 3 describes the four writing tasks in this study and the procedures in selecting subjects, collecting samples, hand-scoring the data for syntactic and rhetorical analysis, and statistically analyzing the data. The holistic marking procedure is also reported in the last section of this chapter. Chapter 4 reports the results of data analysis. Chapter 5 discusses the results and limitations of this study. Chapter 6 includes the conclusions, and suggestions for further research and classroom teaching.

Notes:

1. Lee Yuk-Mui, Personal communication, February, 1986.

Chapter 2

Literature Review

This chapter contains two main sections. The first section reviews studies relating to the research problem and the second one reviews studies on discourse theory and research design.

Section 1

Studies relating to the research problem

This section again is divided into three parts. The first part discusses the problem relating to the difficulty of argument relative to narration and the difficulty encountered by non-native speakers vs. native speakers . The second part explores the two possible levels which may pose difficulties for both inexperienced native and foreign language learners when handling the argumentative mode, that is, at the syntactic and rhetorical levels. At the syntactic level, various measures of syntactic development over the past 50 years are briefly described, and justifications for not employing certain measures in this study will also be given . To conclude the discussion on syntactic measures, the limitations of the T-unit model are discussed. Then findings showing greater syntactic complexity in the argumentative mode than in the narrative mode are presented. At the rhetorical level, the rhetorical organization of both the argumentative and narrative mode are described, and studies investigating the organization of argumentative texts are also reviewed. The third part introduces the five research hypotheses.

2.1.1 Problems in writing:

2.1.1.1 Difficulty of modes relative to each other:

In the past 20 years, there have been both theories and empirical studies showing that argument is more difficult than narration. At the theoretical level, these has been explanation from the perspective of cognitive development (e.g., Moffett 1982, cited in Crowhurst 1983) and from that of discourse schemata (e.g., Bereiter and Scardamalia 1982, cited in Crowhurst 1983, Kintsch 1982, cited in Hidi and Hildyard 1983).

Moffet (cited in Crowhurst 1983) treated discourse as an abstractive hierarchy, beginning at the lowest level with narrative followed by generalizing and theorizing. Narrative, the form of discourse that most closely resembles the chronological structure of external reality is, he believes, the easiest and most natural form of discourse for children. The high abstraction levels of generalizing and theorizing become common only when cognitive development takes place. That is to say, it is the nature of argument that poses difficulty for young writers, because persuasive communication requires the complex confluence of logical, linguistic and social cognitive skills (Rubin and Piche 1979), but the cognitive development of young writers may not have taken place to such an extent that they can cope with the complexity of the argumentative mode.

Bereiter and Scardamalia (cited in Crowhurst 1983) hypothesized that children's difficulty in writing persuasive composition is related to the development of discourse schemata. "A schema contains the network of interrelations that is believed to normally hold among the constituents of

the concept in question" (Rumelhart 1980:34). According to schema theories, all knowledge is packaged into units. These units are then called schemata. But a schema contains more than just knowledge itself, because information about how this knowledge is to be used is also embedded in the schema. Discourse schemata are "specialized representations of our knowledge about various discourse types, including knowledge about the way in which structural discourse elements can be interrelated" (Hidi and Hildyard 1983:93). Bereiter and Scardamalia suggest that when children write, they must adapt their existing oral discourse schemata for the purpose of written discourse. Discourse schemata which are relatively closed in that they impose fairly strict requirement on the composer (i.e., narrator) will be easier to adapt than will schemata such as explanation or argument which are comparatively open. This theory provides an explanation of the fact that children write narrative somewhat more easily than they do persuasion.

Hidi and Hildyard (1983) also pointed out that the discourse schemata for narrative production have already been well developed even in young children so it is predictable that young children can write stories. He said:

> Thus, children as young as four years of age know that a story contains a setting, a goal, and an action and that these elements will describe a conflict which the character must resolve in order to achieve the goal with its resultant consequence (1983:93).

However, the students' discourse schemata for argumentative production have yet to be developed (e.g., through the help of teachers), and the difficulties encountered by children may stem from difficulties in composing the types of discourse (e.g., opinion essay). The suggestion that discourse production is directed by specialized organizational structure has also been made by other researchers. For example, Kintsch (1982, cited in Hidi and Hildyard 1983) has also pointed out that, in addition to knowledge about subject matter, text specific organizational strategies are required for production.

At the practical level, previous studies have shown that the argumentative mode is more difficult for inexperienced writers than other modes of discourse, e.g., narrative, descriptive and expository. For example, Veal and Tillman (1971) found that the improvement on writing quality over the four year span from second to sixth grade is smallest for the argumentative mode among description, narration and exposition. San Jose (1973) demonstrated that students are much more at ease writing personal narrative and reflection than writing exposition. Rubin and Piche (1979) also pointed out that the degree to which persuasive skills continue to mature through later adolescence and beyond remains uncertain. On the basis of this evidence, it is not surprising that young school children have difficulties writing the argumentative mode. Freedman and Pringle (1979) found that the Grade 5 writers were able to write much more fluently in response to their narration than Grade 8 writers could in response to the argumentative mode. Jones (1981) explained that narratives come easily to basic writers because this mode allows them

complete control over subject matter and language. Hidi and Hildyard (1983) found that most of their fifth Grade subjects could produce good narratives, but that only a few could produce good opinion essays. Prater and Padia (1983) reported that persuasive writing tasks were found to be the most difficult type of writing for most of their fifth and seventh grade subjects. While supporting earlier research that younger students write less effectively in the argumentative mode, Crowhurst's study (1983) also revealed that inexperienced writers oscillate between starting opinions and lapsing into narrative anecdotes.

As far as the present researcher knows, the number of studies among foreign language learners in this field is fairly small. Zhang (1981) found that Chinese students who were the third year college English majors appeared to be most fluent in the story-telling mode. But difficulty in managing the argument mode was obvious. Nearly half of the 80 students failed in the task. Of the 25 final samples selected for clear handwriting and comparatively small number of errors in their compositions among the top half of the 80 students, nine were failed attempts at an argument, among which three were repeated story-telling, the remaining six having only a few lines somewhat suggestive of the writers' personal opinions which they failed to present clearly.

2.1.1.2 Difficulty of non-native speakers vs. native speakers in writing:

As shown in the above studies concerning native and foreign language learners, most inexperienced writers have difficulties with the argumentative mode. However, for the foreign language learners in mainland China and Hong Kong, it is not only the mode of discourse that causes problems, but also the target language itself. As Zhang (1981) pointed out, the students in mainland China showed two syntactic characteristics in their writing; that is, misuse or overuse of coordinative conjunctions and excessive use of finite verbs. Below are the examples quoted from Zhang (1981). Zhang said the overuse of finite verbs lead to syntactic immaturity. He suggested the use of non-clausal structures to replace the finite verbs. Thus, examples 3), 4), 5) below were rewritten by Zhang as 6), 7), 8).

Examples of misuse or overuse of coordinative conjunctions:

1) There is a young man in the factory, [sic]he wants to marry. [misuse]

2) They waited and waited, and a woman appeared with [sic] worrying look on her face. [overuse]

Examples of excessive use of finite verbs:

3) They waited there and the girl got impatient.

Rewritten as 6) The girl got impatient after waiting for such a long time.

4) He was warm-hearted and he decided to bring along another girl.

Rewritten as 7) Warm-hearted and enthusiastic, he decided to bring along another girl.

5) He didn't cry out, because it would frighten the boy.

Rewritten as 8) He didn't cry out for fear of frightening the boy.

As for the Hong Kong students, they were reported to have general problems in writing. As the 1985 Annual Report of the Hong Kong Certificate of Education Examination pointed out, most compositions produced by the Form Five students attempting syllabus A[1] were uninteresting, and there was little originality shown in terms of content. Apart from the difficulties with generating writing ideas, there were also a lot of grammatical errors resulting both from inter-language and intra-language interference in the compositions of the weaker candidates. As for the Form Five students attempting syllabus B, which is more difficult than syllabus A, their major weakness was their failure to read the questions carefully and to recognize exactly what they would have to write about. There were also many errors in the most elementary structures of the language, and these affected the students' performance.

2.1.2 The difficult areas of the argumentative mode:

It is not enough just to know that both first and foreign language learners have difficulty with the argumentative mode; rather, it is more important to know in what way this mode poses difficulties for inexperienced student writers. The present study intends to explore the possible difficulties of student writers at both syntactic and rhetorical levels, i.e.,

at the level of organization of the whole text (Kaplan, 1986b). This section will contain three parts. The first part deals with difficulties at the syntactic level. The second one discusses the limitations of the T-unit model. And the third one deals with difficulties at the rhetorical level.

2.1.2.1 Syntactic level:

Previous studies have found greatest syntactic complexity in the argumentative compositions in comparison with that in other modes of discourse (e.g., San Jose 1973, Perron 1976, Crowhurst and Piche 1978, Crowhurst 1978, Watson 1979). The common measures of syntactic complexity in these studies are mean T-unit length, mean clause length and clauses per T-unit, which were first proposed by Hunt in 1965. Since the three syntactic measures will also be used in this present study and since Hunt's 1965 study is a touchstone for syntactic researchers today, his study is introduced in great detail in this chapter. Apart from Hunt's syntactic measures, other measures of syntactic development used over the past 50 years' are also described briefly, and justifications for not employing them in this study are also given. All these are dealt with in the first part of this section, whereas findings showing greater syntactic complexity in the argumentative than in the narrative mode are presented in the second part of this section.

2.1.2.1.1 Various syntactic measures:

Subordination index (or subordination ratio):

LaBrant (1935, cited in Hunt 1965) claimed that this measure can reflect syntactic development for his grade four to grade twelve students. He reported "the percentage of dependent clauses used in writing increases until age sixteen or above". (cited in Hunt 1965:29). This ratio is obtained by dividing the dependent (subordinate) clauses by all clauses both dependent and independent (main).

However, as suggested by Hunt (1965), it is important to note that LaBrant's definition of clause is not ordinarily understood to be a single clause. For example, he would treat the expression "I am studying books and working hard" as two clauses with an average clause length of 3.5 words, commenting that "...predicates containing two or more participles or complementary infinitives after a single auxiliary were counted as two predicates" (cited in Hunt 1965:30). However, Hunt would count this expression as one clause with an average clause length of seven words. Therefore, although LaBrant found that there is no significant difference among students of different grades in mean clause length, Hunt questions LaBrant's definition of clauses and defines clause in a way different from LaBrant in his 1965 study.

Mean T-unit length, Mean clause length and clauses per T-unit:

Hunt (1965) proposed these three measures of syntactic development. The definitions of them were given in Chapter 1 (pp.9-12) in this report. In order to show that these three measures are the best, Hunt compared four syntactic measures in his study: mean T-unit length, mean clause length using his new definition of clause, sentence length and LaBrant's subordination index. Although he found that mean sentence length, mean clause length and subordination ratio did generally differentiate between the writing of fourth, eighth, and twelfth graders, he noted several problems with the measures. Hunt first questioned the objectivity of sentence length by asking what a sentence is. If everything between the initial capital letter and the terminal punctuation is a sentence, then, Hunt said, we will be forced to call a fourth grader's entirely unpunctuated composition a single sentence. In such a case, the long sentence is no indication of syntactic maturity, but only shows the fourth grader's disregard for punctuation. Moreover, Hunt said that, if we choose to punctuate the student's writing for him/her, we cannot be sure that another reader would punctuate it the same way. Hence, in our attempt to overcome punctuation problems, we sacrifice objectivity. Since the T-unit can be identified much more objectively through syntactic analysis, the mean T-unit length is a better index than mean sentence length.

The second problem, which the three other indices share, demonstrates T-unit's superiority. Even though mean sentence length, mean clause length, and subordination ratio all increase with grade level, there is considerably more overlap among grades with them than with the mean

length of T-unit. For instance, in Hunt's study, the student with the highest average sentence length was an eighth grader, whose average sentence length was 30 words, almost twice that achieved by the average twelfth grader. One fourth grader wrote a sentence which was longer than the sentences written by any one of the twelfth graders. This fourth grader wrote one sentence of 77 words with no internal period. He wrote another that was 68 words long. Another two fourth graders with the next highest averages achieved such prominence by writing prodigiously run-on sentences. These two fourth graders used more than 70 *and's* in each of their compositions between main clauses, whereas the average figure for the twelfth graders was only five.

Hunt also found comparably revealing overlap with mean clause length and subordination ratio. Hunt concluded that T-unit length, which admitted far less overlap among the three grades, was a more reliable indication of a student's grade level and increasing control over syntax. After the T-unit, he found the second most reliable measure to be the mean clause length, with subordination ratio and mean sentence length following in that order. Table 2 summarizes the comparative grade-level overlap admitted by each of the four maturity measures.

Table 2

Comparative grade-level overlap of the four measures

	number of 4th graders overlapping 8th graders	number of 4th graders above 8th graders	number of 8th graders overlapping 12th graders	number of 8th graders above 12th graders
sentence length	10	4	14	5
subord-ination ratio	14	2	10	1
clause length	3	0	15	7
T-unit length	2	0	8	1

(From: Hunt 1965:39)

The four indices were all tested statistically to determine which was the better indicator of a student's grade level. Each student's score on each index was subjected to a chi-square analysis, and if that was significant at the 0.05 level, a contingency coefficient was then calculated. The results showed that the best index is T-unit length (0.694). Second best is mean clause length (0.616). Third best is subordination ratio (0.523). Fourth best is sentence length (0.489). The results are shown in Table 3.

Table 3

Contingency coefficients for four indices

	Chi-square	contingency coefficiency
mean sentence length	17.03	0.489
subordination ratio	20.30	0.523
mean clause length	33.10	0.616
mean T-unit length	50.35	0.694

(From: Hunt 1965:40)

Apart from the problems mentioned above, Hunt also observed some problems concerning the subordination ratio. He observed from his data that older students tend to write a higher proportion of subordinate clauses per main clause. That can be restated conveniently by saying that they put more clauses into their T-units. For example, he found that "both fourth and eighth graders still prefer single-clause T-units, but they use 2-clause T-units more often than fourth graders do. Twelfth graders have come actually to prefer multi-clause T-units" (1965:41).

But Hunt said that the mere subordination ratio fails to show us how large a cluster of clauses each grade prefers to handle in one T-unit. Therefore, he proposed to replace the subordination ratio by another ratio--clauses per T-unit. This new ratio is defined as the number of all clauses (both subordinate and main) divided by the number of T-units--or since the number of main clauses is identical with the number of T-units, the ratio is equal to the number of all clauses divided by the number of main clauses. The two ratios are shown in equation form below:

$$\text{LaBrant' subordination ratio} = \frac{\text{Dependent Clauses}}{\text{All clauses (both main and subordinate)}}$$

$$\text{Hunt's clauses per T-unit} = \frac{\text{All clauses (both main and subordinate)}}{\text{T-units (main clauses)}}$$

Hunt mentioned that this new ratio has a particular use of providing an arithmetic bridge between clause length and T-unit length; that is, the average clause length expressed in words, multiplied by the average number of clauses/T-unit (expressed as a decimal ratio) will exactly equal the average T-unit length (expressed in words). If any two of these three indices is known by direct observation, the third can be found by simple computation or if all three are found by direct observation, as has been done for this study, then the accuracy of the three figures can be checked one against the others. For example, if a writer writes 300 words, 25 clauses, 15 T-units, then the mean T-unit length is 300/15=20.00, the mean clause length is 300/25=12.00, the ratio of clauses per T-unit is

25/15=1.67. Another method to get the mean T-unit length is to multiply mean clause length by the ratio of clauses per T-unit (i.e., 12 x1.67=20.04) which confirms the earlier calculation (300/15=20.00).

Using these three syntactic measures, Hunt found that as school children grow older, they tend to write longer T-units, longer clauses and more clauses per T-unit. Hunt's findings are presented in Table 4.

Table 4

A Synopsis of clause - to - T-unit factors

	Mean clause length		Clauses per T-unit	Mean T-unit length
Grade 4	6.6 wds (77%)	x	1.3 (77%)	=8.6 wds (60%)
Grade 8	8.1 wds (94%)	x	1.42 (85%)	=11.5 wds (80%)
Grade 12	8.6 wds (100%)	x	1.68 (100%)	=14.4 wds (100%)

(The percentages given in parentheses are the assigned values to the achievement of the two younger grades. The twelfth grade performance is taken as 100%.) (From Hunt 1965:52)

Reading percentages down the column for mean clause length, we see that more growth (94%-77%=17%) occurred in the earlier period (that is, between grade 4 and grade 8) and less (100%-94%=6%) appeared in the later period. Reading down the second column, indicating the ratio of clauses per T-unit, we see the reverse to be true. Little growth

(85%-77%=8%) occurred in the earlier period (i.e., between grade 4 and grade 8) while more growth (100%-85%=15%) occurred in the later period (i.e., between grade 8 and grade 12).

Since the overall differences between fourth and twelfth grade both for mean clause length and for number of clauses per T-unit are equal (i.e., both increases by 23% <100-77%> over the eighth year span (from fourth grade to twelfth grade), Hunt concludes that one measure is as good as the other as an indicator of maturity. Neither of these two indices, however, is as good as mean T-unit length, a measure which is a combination of the two which shows a 40% increase between the fourth and twelfth grade.

Communication unit:

Loban (1953, cited in O'Donnel 1977) proposed this measure. The definition of the communication unit can be stated either semantically or structurally. In terms of semantics it is what Watts (1948, cited in O'Donnell 1977:50) described as "the natural linguistic unit...a group of words which cannot be further divided without the loss of their meaning." The structural definition, which Loban found easier to apply objectively, is that of an independent clause with its modifiers. Thus, "Loban's communication unit is not essentially different from the T-unit employed in Hunt's 1965 study" (cited in O'Donnell 1977:50). Given the fact the communication unit and the T-unit are practically the same, the conclusion of O'Donnell (1976) that the mean T-unit length may be the most reliable and usable index of syntactic development over a wide-age range seems to be supported.

Free-modifiers:

Christensen (1967) pointed out the frequent use of free modifiers by skilled adults. He found that modern prose is characterized by "loose" sentences. A "loose" sentence contains a main clause (which might be short and simple) to which various kinds of "free" or "non-restrictive" elements are added. These added elements are set off by commas from the main clause. For example, in the following sentence provided by Christensen, the main clause is "they huddled" whereas all other elements added and set off by commas are free modifiers.

> Calico-coated, small bodied, with delicate legs and pink faces in which their mismatched eyes rolled wild and subdued, they huddled, gaudy, motionless and alert, wild as deer, deadly as rattle snakes, quiet as doves (cited in Watson 1979:53).

Christensen's syntactic measure of free modifiers will not be used in this study for the following two reasons. First, his measure is mainly for skilled adults, but the subjects in this study are secondary and university students. Second, although Christensen pointed out the frequent use of free modifiers by skilled adults, Hunt retorted that his finding in 1965 is not different from Christensen's; rather, it is a matter of definition of clauses. In a letter to Christensen, Hunt said:

> You count as a clause something quite different from what I count as a clause, and count as a nominal something quite different from what I count as a nominal. So, when confronted with identical sentences, you say the clauses and nominals are short whereas I say the clauses and nominals are long (cited in Christensen 1968:576).

For example, for Christensen, the main clause in the above example is only "they huddled" and the other elements are free-modifiers. However, Hunt would treat the whole sentence as one clause with a length of 35 words. Thus, Hunt's notion that skillful adults will write longer clauses still hold true.

Number of sentence-combining transformation per T-unit:

O'Donnell, Griffin, and Norris (1967, cited in Watson 1979) studied how mean T-unit length would correlate with this new measure. As a result, they found a notable relationships between these two measures. O'Donnell, *et al*, (cited in Watson 1979:41) stated that "when fairly extensive samples of children's language are obtained, the mean length of T-units has special claim to consideration as a simple, objective, valid indicator of development in syntactic control."

A scale of syntactic complexity:

Endicott (1973) proposed a scale of syntactic complexity. This measure seems to be based on an early stage of transformational theory, and he believes in the psycho-linguistic reality of transformational processes.

Syntactic density score:

Golub and Kidder (1974, cited in O'Donnell 1976) proposed this measure. This measure also involves T-unit anlysis. It reflects measures of T-unit length and subordinate clause length and also takes into account uses of complex verb phrase expansions and various kinds of embedded structures.

After careful consideration of T-units and these new measures, O'Donnell (1976) still claimed that mean T-unit length is still the most useful and usable index of syntactic development over a wide age-range and that mean clause length is the best measure of syntactic complexity at high school and beyond.

2.1.2.1.2 Limitations of the T-unit model:

Certain problems in T-unit analysis have been pointed out--in some cases definitional and in others procedural. Some are related to T-unit analysis in general, while others are related specifically to the application of T-unit analysis to second language data.

First, while mean T-unit length reflects excessive coordination between sentences, it fails to deal with excessive coordination within a sentence (Ney 1966, cited in Gaies 1980). Ney's argument is that it is essentially arbitrary to view coordination of sentences and coordination of noun phrases as being qualitatively different. This argument can be illustrated by the following pair of sentences:

Then the rain falls and spring comes. (2 T-units)
So he went through the woods and pulled the feather out of his hat from the partridges and put a flower in his hat and walked on through the woods. (1 T-unit) (From Ney 1966:234, cited in Gaies 1980)

This kind of arbitrariness is also found in Hunt's treatment of coordinative and subordinative conjunctions like for, so, and because in terms of their degree of syntactic complexity. For example, a sentence containing two clauses joined by a subordinative conjunction because is treated by Hunt as one T-unit, but it is treated as two T-units if the two clauses are joined by a coordinative conjunction for. However, the use of because and for does not really differentiate learners' syntactic maturity. For example, the Hong Kong students in the present study seemed to use them indiscriminately. Moreover, the T-unit is not always sensitive in measuring non-clausal subordination. For example, in the following sentences, both are treated as one T-unit although the first one is of non-clausal structure whereas the second one is of clausal structure.

Chi Ming slipped away, leaving his family at the fair. (1 T-unit)
Chi Ming slipped away, and left his family at the fair. (1 T-unit)

Second, a definitional criticism of a very different nature has led to the modification of mean T-unit length as the primary index of second language development. A number of researchers (Gaies 1976, cited in Gaies 1980, Larsen-Freeman and Strom 1977, Larsen-Freeman 1978, Vann 1978, cited in Gaies 1980) have recognized that errors, while not

characteristics of first language data, do occur relatively frequently in adult second language data, and that an index of language growth should in some way reflect the incidence of developmental errors. The result has been a modification of the basic index; the length of error-free T-units is now considered to be a more valid measure of growth in a second language environment. Vann (1978, cited in Gaies 1980), for example, found that while mean T-unit length does not correlate with TOEFL scores, which shows the target language proficiency level for foreign language learners, both the mean length of error-free T-units and the ratio of error-free T-units to total T-units correlate significantly with those scores.

However, certain problems still remain, the first of which is to reach agreement of what constitutes an error. The most unambiguous position, although not necessarily the most fruitful one, is that taken by Larsen-Freeman and Strom (1977) , who required that a T-unit be perfect in all respects, including spelling and punctuation, for it to be considered error-free. On the other hand, Scott and Tucker (1974, cited in Gaies 1980) considered any T-unit free of morphological and syntactic errors to be error-free. An intermediate position is represented by Vann (1978, cited in Gaies 1980), who required that a T-unit make sense in the given context and be free both of morphosyntactic and lexical errors. Gaies (1980) argued that, to go one step further, even if consistency among researchers could be obtained regarding the definition of an error-free T-unit, there would still remain the question of whether or not it would be worthwhile to establish a hierarchy or errors, since clearly different errors have different effects.

Third, the T-unit measure does not appear to be particularly appropriate for the analysis of data from subjects with ralatively low proficiency (Gaies 1980). In the data of these subjects, grammatical and lexical errors are so frequent and of such a nature that they tend to interfere not only with the reader's or listener's understanding, but also with the researcher's ability to tabulate T-units. In other words, T-unit analysis seems to be useful only among student writers whose target language proficiency is beyond a certain level of development.

Fourth, it is questionable whether the discriminating power of the T-unit length of error-free T-unit (and related measures) will distinguish learners with low proficiency from those with a high degree of proficiency; it seems not to be as sensitive an indicator of second language development as might be desired (Gaies 1980). Studies conducted by Larsen-Freeman and Strom (1977) and Larsen-Freeman (1978) among second language learners have shown considerable overlapping between adjacent groups. This is not the case with data in first language development. The reason for this difference may be due to the fact that, while the ability to subordinate and embed sentences develops gradually over a number of years in the first language acquisition, the process is, by comparison, far more compressed in adult second language acquisition (Gaies 1980).

Lastly, the fifth criticism concerns what constitutes *maturity*. Odell (1977) said that, although through the work of Hunt (1965) and Christensen (1967), the features of syntax most indicative of syntactic

fluency or syntactic maturity have been demonstrated, still research lacks a definition of what constitutes a mature person. Hunt's view of growth in writing ability lacks a clear relationship to a theory of cognitive or personal development. Odell said one of the first people to try to establish this relationship was James Moffett, who equated growth in writing ability with the progression from a relatively egocentric state (in which one is able to address only limited audiences about only a few kinds of subjects) to a relatively decentered state (in which one is able to address a variety of audiences about a variety of subjects). Williams (1968) also holds the same view towards what constitutes *maturity*. He outlined several stages in the changing of undergraduates' thinking process. He found the students in the Harvard University changed from a rather simplistic view of knowledge to a more relativistic stance; that is, there is no absolute truth and finally they come to know that reality is complex and one has to make good judgement among alternatives. Odell proposed to redefine *mature writing* in terms of *mature thinking*. What is *mature thinking*? Odell did not give a concrete description of it. Rather, he proposed several ways to explore how cognitive maturity is manifested in writing. One of the ways is to study the "mind at work" in writing done by students. He said:

> We might rely on a combination of theory and intuition to identify one group of writers that seem to reflect relatively mature thinking and another group that seem to reflect relatively immature thinking. We would then analyze their writing to see whether we could detect patterns of thought which appear in the one group but not in the other... (Odell 1977:109).

Although there are these limitations, Gaies (1980) concluded that T-unit still has the value of reflecting the fact that, even in the second language environment, language development involves an increasing ability to incorporate and consolidate more information into a single grammatically interrelated unit--to put more chunks of information into a sentence.

2.1.2.1.3 Findings showing greater syntactic complexity in the argumentative than in the narrative mode:

In the following discussion, evidence showing that the argumentative mode is more complex syntactically than the other modes of discourse is given.

San Jose (1973) reported that mean T-unit length was greatest in argument followed by exposition, narration and description. Perron (1976) also reported a similar finding. He found that argument produced writing of greatest syntactic complexity, with exposition and narration sharing an intermediary position which varied according to the measure chosen. Crowhurst and Piche (1978) also found that the argumentative mode was more syntactically complex than either the descriptive or narrative mode. Their results also indicated that narrative writing, which showed no significant increase in syntactic complexity over a four year span, from sixth to tenth grade, is not useful for examining the development of syntactic complexity. Crowhurst conducted another similar study in the same year. This study was intended to examine two modes of discourse (narration and argument) among three grades of students (sixth, tenth and twelfth grade). She found that, at each grade level, mean T-unit length

was greater in argument than in narration. The difference across modes for the sixth, tenth and twelfth graders is 3.18, 2.69 and 3.55 words per T-unit respectively. Again she found no significant contrast between tenth and twelfth graders in the mode of narration. However, there were significant syntactic differences between the sixth graders and the tenth graders in the narrative mode. This finding is different from that of Crowhurst and Piche (1978) which showed no significant difference in narration between sixth and tenth grades. Nevertheless, the absence of a significant difference between tenth and twelfth grades in her second study lends some support to Crowhurst and Pich's suggestion (1978) that there may be a point, as yet not determined, beyond which age-related increases in syntactic complexity do not occur in narrative writing.

For the mode of narration, Freedman and Pringle (1979) also discovered some irregular findings. They found that the seventh graders wrote longer T-units as well as more clauses per T-unit even than the eighth graders. But in the mode of argument, the scores of these measures of the seventh graders were lower than those of the eighth graders. Thus, the findings of these two studies seem to suggest that the effect of the narrative mode on syntactic complexity is worth further exploration. Watson (1979) again found significant syntactic differences among discourse types. Particularly striking were the differences between the expressive and the persuasive modes.

All these findings suggest that the argumentative mode is more complex syntactically than other modes of discourse written by the native language learners. As for the studies among foreign language learners, only one has been available to the present researcher. Zhang (1981) found that the mean T-unit length in the argumentative mode was significantly longer than that in the narrative mode. This finding goes along with the findings in previous studies done by Crowhurst and Piche (1978), Crowhurst (1978) and others with native English speaking children. Table 5 summarizes the results of Crowhurst's two studies in 1978 and Zhang's study in 1981.

Table 5

Findings of Crowhurst (1978) and Zhang (1981)

Study (Grade)	Mean T-unit length	
	Narration	argument
Crowhurst's first study (6)	10.13	11.75
Crowhurst's first study (10)	11.15	14.26
Crowhurst's second study (6)	10.60	13.79
Crowhurst's second study (10)	12.48	15.17
Crowhurst's second study (12)	12.51	16.06
Chinese (College English majors)	10.08	11.53

(From Zhang 1981:52)

The above fndings show that argumentative essays are more complex syntactically than narrative ones written by both native and foreign language students. Apart from the syntactic level, the argumentative mode also seems to be more complex than the narrative mode in terms of rhetorical organization. The rhetorical organization of the two modes is described in the following section.

2.1.2.2 Rhetorical level:

2.1.2.2.1 Description of the rhetorical organization of the argumenative and narrative mode:

As far as the rhetorical organization of discourse is concerned, narratives and arguments are organized differently in their rhetorical structure. Narratives are organized chronologically (time order) or spatially (space order)[2] whereas arguments are organized hierarchically and in a much more complex way than narratives. Candlin and Lotfipour-Saedi (1980) defined the discourse production process in term of the "elaboration" of the "message" or the "topic" involved. This process of topic elaboration proceeds in two dimensions: "horizontal" and "vertical." That is, first, the discourse topic is broken down into several sub-topics which they call *high-order themes*. Each of these high-order sub-topics is then broken down again into other sub-topics, which they call *discourse themes*. Thus, the whole discourse is organized hierarchically. Kaplan also described

the organizational structure of argumentative writing as both linear and hierarchical (1986a). A discourse topic which is equal to the viewpoint towards an argument is supported by several subtopics which he calls *discourse units*. Each discourse unit is again supported by other sub-topics. Each sub-topic again may be supported by other sub-topics depending on how far the writer goes in supporting his/her argument.

Lautamatti (1986) also looked into the structure of argumentative texts. She thought of the topical development of a piece of expository discourse as a succession of hierarchically ordered sub-topics, each of which contributes to the *discourse topic*, and is treated as a sequence of ideas, expressed in written language as sentences. Connor (1986) also established a system to analyze argumentative texts. Connor viewed the production of argumentative text as the cognitive process of problem-solving. The goal of the speaker or writer is to share the hearer's or reader's initial opposing position to the final position that equates with the position of the speaker or writer. The goal is achieved through a series of sub-goal--the individual points made in argument (called *claims* in her study). The process of written argumentation typically has the following structural units: situation, problem, solution, and evaluation. She also identified a sequence of speech acts in argumentative texts as asserting a claim, justifying a claim through observations, and inducing the original claim from observations.

2.1.2.2.2 Studies investigating the rhetorical organization of written texts:

As shown above, Candlin and Lotfipour-Saedi, Kaplan, Lautamatti, and Connor have outlined the macro-structure of the argumentative mode. However, to the best of the knowledge of the present researcher, there are no studies which compare the rhetorical complexity of the argumentative mode with that of the narrative mode; thus, the present researcher has to define rhetorical complexity in a way that suits the purpose of this study. In defining rhetorical complexity, the present researcher took advantage of Candlin and Lotfipour-Saedi, Kaplan, Lautimatti and Connor's description that the argumentative mode is basically of a hierarchical structure, but this study has also tried to fill the gap which they had not discussed in their models, that is, the skills a writer may use in supporting a given point in an argument. In this study, rhetorical complexity is defined in such a way that it can reflect the inherent demand, which comes from the rhetorical organization of the argumentative and narrative mode, on the amount of writing skills a writer has to use. The reason is that the kinds of writing skills that will appear in an essay will, to a great extent, depend on the rhetorical organization of that essay. For example, in an argumentative essay, the writing skills involve how to support the argument step by step by giving reason, examples, or details (Stephens 1981), which in turn may result in the use of <u>that</u> clauses, <u>if</u> clauses, <u>because</u> clauses etc. As for the narrative mode, it involves mainly the story content organized in terms

of chronological or spatial order,[3] which in turn may result in the abundant use of time clauses. Thus, being skilled in accomplishing one rhetorical purpose does not necessarily imply being skilled in accomplishing another (Serafini 1982).

Rhetorical complexity is defined as the total number of six types of subordinate clauses (TSC) and the number of types of subordinate clauses used (NT). The rationale for having two measures is that basically there are two ways to increase the measure of TSC. One is by using more types of subordinate clauses, whereas the other is by adding more subordinate clauses of the same type(s). Therefore, with the second measure, NT, it can be known in what way a writer increases the rhetorical complexity of an essay. For a detailed description of the definition of rhetorical complexity, please refer back to the end of Chapter 1.

2.1.3 Research hypotheses:

The above discussion can be summarized as follows:

1) The argumentative mode is more difficult than the narrative mode both from theoretical and practical levels.

2) Both native and foreign language students have difficulties writing the argumentative mode. But by contrast to the native language learners, both students from mainland China and Hong Kong (as mentioned in the 1985 Annual Report of the Hong Kong Certificate of Education Examination) seem to have language problems with the target language apart from those arising from mode of discourse.

3) Greater syntactic complexity has been found in the argumentative essays than in the narrative ones written by native language learners and by the college English majors in mainland China.
4) The argumentative mode also seems to be much more complex than the narrative mode in terms of rhetorical organization.

Based on these four findings and the following two points, the five research hypotheses in this study were formulated and are presented later in this section.

The first of these two points is that, the richness of writing ideas for an argumentative essay depends on how well a writer knows the issue from a social or an economic perspective, as well as on his/her ability to express logical relationship (Clark and Delia 1977). Second, Hong Kong secondary students do not receive adequate guidance on rhetorical organization when writing an essay (Mohan and Au-Yeung Lo 1985). Mohan and Au-Yeung Lo pointed out that learning experience with English composition in Hong Kong was oriented to accuracy at sentence level: for example, most of the English composition books used in Hong Kong secondary schools did not have any sections on organization, and Hong Kong teachers indicated that their main objective was to teach students how to write correct English and that much time and effort was spent in teaching grammar rules. Students' essays were usually marked and corrected in full by the teacher alone, with an eye to accuracy of expression. Rarely were stuents given opportunites for pre-writing discussion or post-writing classroom sessions for evaluation and correction, particularly because of the

problems of class size. The finding also gets support from the recommendations given by the Hong Kong Examinations Authority to English teachers in its 1985 annual report. It stated:

> In language learning and teaching, it is always possible to argue whether emphasis should be given to accuracy or content. But in view of the frequent occurrence of glaring grammatical errors resulting both from inter-language and intra-language interference in the scripts of the weaker students, it is recommended that teachers teaching Syllabus A pay more attention to accuracy. To help these students, more time should be spared to revise the basic tenses, adverbial and adjective clauses, the common prepositions and prepositional phrases. Also, in view of the fact that many of these students cannot think without translating, it is recommended that teachers draw their attention to where two languages differ as a frequent remedial exercise (1985:33).

Thus, it can be seen that no recommendation on the teaching of rhetorical organization has been made. Based on these findings, the five research hypotheses of this study are formulated and presented as follows:

1) Variations in syntactic complexity among the Hong Kong students at three grade levels will be significantly different in response to different modes or different themes.

2) The syntactic complexity in the argumentative essays written by university English majors will be significantly greater than that in their narrative essays.

3) The syntactic complexity in the argumentative essays written by Form Four and Form Six students will not be significantly greater than that in their narrative essays.

4) The rhetorical organization in the argumentative essays written by English majors will be significantly more complex than that in their narrative essays.

5) The rhetorical organization in the argumentative essays written by Form Four and Form Six students will not be significantly more complex than that in their narrative essays.

Section 2

Studies relating to discourse theory and research design:

2.2.1 Discourse theory:

The present research design of the writing tasks is based on the classification of discourse types which the Hong Kong Examinations Authority has adopted; namely, the four modes of discourse: description, narration, exposition, and argument. Although these four modes of discourse were first enunciated in 1827 by Samuel Newman, they were not

very popular until formulated in1866 and presented in the United States in a rhetoric text book in 1885. After 1890, they were gradually accepted by the most influential rhetoricians of the day, and their use in textbooks as the major organization device did not change until around 1930. By 1950, other discourse theories began to appear, for example, Mccrimmon (1950) and Kinneavy (1971) pointed out that the aims of discourse determine everything else. Today, the concept of modes still lingers, but the essentially product-based character has made them less and less useful in writing classes (Connors 1981).

In fact, there has been much criticism against this classification of discourse into four modes. For example, the mode of description can be organized in a variety of ways, employing different logic, or being written in different styles depending on whether the writer's purpose is to inform, explore, demonstrate or persuade (Fulkerson 1984). In spite of the criticism, this old classification system is still used by the Hong Kong Examinations Authority. When asked on what grounds the Hong Kong Examinations Authority adopted this classification system, a spokeswoman said that writing seemed to fall naturally into four kinds and that writing had been traditionally divided into these four types. Another reason was that, up to the present moment, there have been no objections against this classification from Hong Kong teachers. She did not exclude the possibility of changing this classification system if there were objections from teachers[4].

Since the Hong Kong Examinations Authority still uses this classification system, and since what the Hong Kong secondary students have been trained to write also follows these four modes of discourse, this old classification system has also been adopted in this present research. However, the present research looks into only two modes (namely, narration and argument) because of the limited scope of the study. Another reason for examining these two modes is that previous studies (e.g., Crowhurst and Piche 1978, Crowhurst 1978) showed that narration and argument form a contrasting pair, with argument the more difficult and narration the easier. Moreover, argument has also been shown to be the discourse type that shows greatest syntactic differences among different grade levels, whereas the findings concerning narration are still controversial, some showing that narration is not a discourse type that can reflect syntactic development. Narration, then, is in need of further exploration in the foreign language environment.

However, owing to the overlapping of the four modes of discourse, some modifications of the classification system have been made in generating the writing tasks. The modifications are based on the notion from Kinneavy's discourse model that the aim of a discourse determines structure. Kinneavy (1971) stated in his *A theory of Discourse* that:

> The aims of discourse determine everything else in the process of discourse. What is talked about, the oral or written medium which is chosen, the words or grammatical pattern used--all these are determined by the purpose of discourse (1971:48).

2.2.2 Review of studies on research design:

A review of the previous studies on research design shows that the following variables need to be considered in generating writing tasks apart from purpose and mode of discourse :

Theme:

Maimon (1978) pointed out that mean T-unit length will vary according to topic. Crowhurst (1978) also pointed out that mean T-unit length will vary according to theme. Crowhurst (1978) found a difference of 18.45 words on mean T-unit length between the theme of "canoe" and that of "classroom" in the argumentative essays written by a sixth grade boy, and a difference of 15.58 words between the theme of "whale" and that of "classroom" in the argumentative essays written by a twelfth grade boy.

Theme across modes:

Crowhurst and Piche (1978) and Crowhurst (1978) warned that, in studies examining the effect of mode on syntactic structures, the variable of theme across mode intervenes. For example, if one composition topic is about "cycling" in the mode of narration, while the other composition topic is about "Chinese New Year" in the mode of argument, then the differences in syntactic structures cannot be attributed to the effect of mode because these topics differ not only in mode but also in theme . Different themes may lead to different registers which, in turn, may lead to different syntactic structures. Therefore, the two composition topics for examining the effect of mode on syntactic structures should be of the same theme.

Topic familiarity and subject matter:

Cazden (1970, cited in Combs 1980) pointed out that if children know the topic better, they tend to produce more complex language. Quellmalz (1981) also said that "world knowledge" about a certain topic will affect the writing performance of a student. Quellmalz said that "world knowledge" refers to the networks of information about world phenomenon learners have in their repertoire. For example, a student cannot begin to compose a coherent essay without a sufficient store of facts and relations within a topic. Topical content of writing topics can be differentially biased against students' particular cultures or language experiences. Thus, topic familiarity is a critical feature in text design.

This dimension can be provided for by choosing a topic which will be familiar to most writers (e.g., topics about daily life events), or by attempting to provide some minimum topic information through the inclusion of text, pictures, or graphic materials. Studies in writing performance have also attempted to control information by using pictures as writing stumuli (Crowhurst and Piche 1978, Crowhurst 1978).

Apart from topic familiarity , Hunt and O'Donnell (1970) pointed out that subject matter might affect the syntactic structures writers use to express their ideas. Witt and Davis (1980) also speculated that different subject matter may systematically elicit different ranges and kinds of syntactic structures

and thus effect individual stability of mean T-unit length, even when the purpose and the mode of discourse are controlled. To compare the relative syntactic complextiy demonstrated by different groups of subjects, it is necessary for them to write roughly the same content.

Audience:

Crowhurst and Piche (1978) found longer clauses when writing was addressed to the teacher than when it was addressed to peers. Crowhurst and Piche described three dimensions of audience ; that is: age, power, and intimacy. Rubin and Piche (1979) also found that more highly subordinated structures were directed to high intimacy targets, compared to the two lower intimacy audiences. They described the high intimacy target as "someone you know well, someone you have probably spent a lot of time with" (1979:298); the target to intermediate intimacy as "someone you don't know very well--This could be someone you've only met once or twice for a short while, or someone you see around the neighborhood but hardly talk to" (1979:298). The low intimacy target represented the construct of "generalized other" and was operationalized as "the reader of the opinion page in your local newspaper" (1979:298).

Interest and Motivation:

Combs and Sitko (1981) highlighted the importance of writers' interest and motivation in the assignment as affecting their writing performance.

Sex:

Ciani (1976), Crowhurst (1978), Morrow (1978), Combs (1980), and Price and Graves (1980) have reported that the developmental trend as measured by mean T-unit length yields no significant sex differences.

Reliability of one-shot writing sample studies:

Justifications for having subjects write only on composition for each mode is supported by the assumption underlying previous related research that one or two writing samples are sufficient to support claims about the syntactic differences across mode (San Jose 1973, Perron 1976, Witt and Davis 1980). Combs (1980) also tested individual T-unit stability. He had his 14 teachers write five persuasive texts. He reported that the relative standing of an individual within a reference group appears stable. Moreover, if a writer writes long T-units in one topic, he will also write long T-units in another.

Notes:

1. In the Hong Kong Certificate of Education Examination, there are two syllabuses for the English subject: Syllabus A and Syllabus B. Syllabus A is easier than Syllabus B and is usually taken by Form Five students who study in schools where the teaching medium is Chinese.

2. Kaplan, R.B. Personal communication, November 1986.

3. Kaplan, R.B. Personal communication, November 1986.

4. Elaine Marshall, Post-Graduate Seminar, the Chinese University of Hong Kong, February 1986.

Chapter 3

Research design: Procedures and writing tasks

This chapter contains three sections. The first one gives a description of the four writing tasks used in this study and the results of the questionnaire analysis, the purpose of which is to see whether the four writing tasks were set up properly. Since the results concerning the questionnaire is not directly relevant to the five research hypotheses, it is more proper to report these results here rather than in the chapter which reports the results of the five research hypotheses. The second section outlines the procedures followed in selecting subjects, collecting data, hand-scoring the data for syntactic and rhetorical analysis, and running the statistics tests. The third one describes the holistic marking procedure.

3.1 Writing tasks of this study:

Purpose of the writing tasks:

To compensate for the inadequacies of the traditional way which classifies discourse into four modes, the purpose of discourse as proposed in Kinneavy's discourse model has been incorporated into the writing tasks in this study. In this study, writers were told that the purpose of writing the story was for their reader's appreciation by catching her interest, while that of the argumentative task was to convince her of the writer's viewpoint.

Apart from the mode and purpose of discourse, other factors were also considered when generating writing tasks for this study. Below is a description of these factors.

Theme-- There are two themes in this study. The first theme is about Chinese New Year, while the second theme is about cycling. It may be asked why there are two themes in this study. The reason is to test the assumption that mean T-unit length will vary according to topic or theme (Maimon 1978, Crowhurst 1978). Another advantage in having two themes in this study is that it can be seen more clearly whether mode has an effect on syntactic structures. The rationale is as follows: If there is only one theme, then, even if the result does show significant syntactic differences across modes, the claim that mode has an effect on syntactic structures cannot be made very strongly, because it may be only in this theme that students show significant syntactic differences; that is, theme

also has an effect on syntactic complexity apart from mode of discourse. However, if students show significant syntactic differences in both themes, then a stronger claim can be made about the effect of mode on syntactic complexity.

Themes across modes:

The argumentative and narrative essays written by the same student were on the same theme. The first pair of the two modes is about "Chinese New Year" whereas the second pair is about "cycling."

Topic familiarity and subject matter:

Four composition topics which the present researcher and the students' English teachers believe to be within the life experience of most university and secondary students in Hong Kong were chosen. Moreover, a picture was attached to each task to serve as stimulus. In order to further ensure that the subjects have something to write in their narratives and arguments, and that the subject matter in each composition will be basically the same, the story outline was provided to them and some points of argument for and against the topic were also provided for their reference.

The instruction for the story outline and the points of argument were written in Chinese because it had been discovered in the pilot test that secondary students copied the English sentence structures in the story outlines and the argument points when the information was given in

English. All the writing instructions were given in Chinese; however, English translations were given for some difficult English words. The original Chinese texts appear in Appendix 1. The English versions appear in Appendix 2 for readers' reference.

Audience:

The present study controlled the variable of audience by stating to the F.6 and F.4 students: "Your reader is a 40-year-old female Cantonese teacher who teaches English in a secondary school. You don't know her at all. She has lived in Hong Kong for many years." This instruction was intended to create the image of the target audience as being of low intimacy and with relative power.

University English majors were told: "Your reader is a 40-year-old female Cantonese lecturer in the English Department at the Chinese University of Hong Kong. You don't know her at all. She has lived in Hong Kong for many years." Basically, the target audience for both the secondary students and the university level students is their teacher.

However, for university English majors, it was stressed that it was a university lecturer who would read their compositions for the following two reasons. First, secondary school teachers may not represent someone with a high language proficiency level in the eyes of university English majors. The target audience for the English majors had to be changed to their lecturers, so that both secondary and university students would be

writing for someone with a higher language proficiency level than they have. Second, since the task of writing compositions of about 300 words is usually one given to secondary students, and also since the pictures attached to the writing task may have appeared childish, university English majors might not have taken this writing task seriously. As a result, their syntactic complexity might have been affected by an impression that the writing task was childish. Therefore, it had to be emphasized that their target audience would be their university lecturer.

Interest and motivation:

In generating the writing tasks, care was taken so as to make the topics as familiar to student writers and as interesting as possible. In order to confirm whether the present researcher has achieved these aims in the research design, a simple questionnaire was given to each writer after he/she had completed each compositions. Each question was given a five-point scale for the writers to indicate their choices (see Appendix 3).

Results of the questionnaire analysis:

Because of the time limitation, only the 120 writing samples which had been used for the holistic marking were subjected to the analysis of the questionnaire answers. The result is shown in Table 6.

Table 6

Mean and standard deviation of each question answered by each grade.

	topics (N=narration A=argument)							
	1 New Year-N		2 New Year-A		3 Cycling-N		4 Cycling-A	
	mean	S.D.	mean	S.D.	mean	S.D.	mean	S.D.
Q1(interesting)*								
F.4	3.56	0.53	2.67	1	2.89	0.60	2.98	0.97
F.6	2.89	0.33	3.11	0.60	3	0.70	3.22	0.67
U	3.33	1	3.33	0.5	3.11	0.78	2.67	0.86
Q2(motivation)**								
F.4	3.22	0.67	2.56	1.01	3	0.5	2.78	0.83
F.6	3.11	0.60	3.56	1.01	3.11	0.78	3.11	0.60
U	3.56	1.13	3.33	0.5	3.22	1.09	3	0.87
Q3(topic familiarity)***								
F.4	2.78	0.97	2.44	0.89	3.11	0.78	2.00	0.5
F.6	3.11	0.60	3	1.41	3.22	0.83	3.11	0.44
U	3.78	1.20	3.67	0.71	2.89	0.93	3.22	0.44
Q4(writing ideas) ****								
F.4	2.78	0.97	2.78	0.83	3.33	0.70	2.33	0.87
F.6	3	0.71	3.67	1	3	1	3.22	0.67
U	3.78	1.09	3.33	0.87	3.33	1.22	3.11	0.78

(* point 1=very boring point 5=very interesting)
(** point 1=not motivated at all point 5=highly motivated)
(*** point 1=not familiar at all point 5=very familiar)
(**** point 1=very difficult point 5=very easy)

The results show that, generally speaking, the four topics are quite acceptable (when the mean was 2.5 or above) for all three grades of students in terms of the above four dimensions. As can be seen from the means in Table 6, the main problems came with the theme of "cycling" in the argumentative mode for F.4 students with averages of 2.00 and 2.33 for two dimensions (topic familiarity and writing ideas), and with the theme of "Chinese New Year" in the argumentative mode for F.4 students with an average of 2.44 in the argumentative mode.

Of course, one may argue that there is always a tendency of such tests to 'collapse into the middle,' particularly when subjects are furnished a five-point (odd number) scale. While the "collapse into the middle" does occur here, as shown by the result that most of the means are very close to three (i.e., $\pm$ 1.5), it is still important to note that the extremes of the scale are never selected (it is observed that the highest and the lowest scale chosen for the four dimensions of the four topics is 4 and 2), so it remains possible to claim that on all four dimensions the subjects did not exhibit either without/with greatest difficulty in generating writing ideas or total familiarity/unfamiliarity with the topics. That in turn suggests that the four topics were at least reasonable choices.

3.2 Procedures

3 2.1 Subjects:

A total of 120 student writers participated in this study. Each student wrote a total of two essays--one narrative and one argumentative--producing a total of 240 essays. Forty subjects were university third or fourth year English majors from the Chinese University of Hong Kong (24 third year students and 16 fourth year students); they are hereafter referred to as "university English majors." There also were 40 Form Four students and 40 Form Six students, from Baptist Lui Ming Choi Secondary School, a subsidized Anglo-Chinese school in Shatin, New Territories, Hong Kong. These two groups of students are hereafter referred to respectively as "F.4 students" and "F.6 students."

F.4 students were chosen because it is usually in Form Four that Hong Kong secondary students begin to write compositions of about 300 words. Therefore, this group can show the writing performance of early beginners in writing compositions of somewhat greater length.

F.6 student were chosen because they can show the writing performance of students who have two more years' experience in writing. Moreover, as Gaies (1980) had suggested, groups of wider grade difference should be used; otherwise, there tends to be overlapping in syntactic measures

among groups. Thus groups of two years' grade difference were chosen. The F.7 students were not available from the school because they were busy preparing for the Advance Level Examination coming in April every year. Otherwise, a larger grade difference might have been obtained.

University English majors were chosen because they may be assumed to be students with a high language proficiency level. As Gaies (1980) has pointed out, in a foreign language environment, it is better to use T-units among students with high proficiency levels. Combs also pointed out that "immature or ill-confident writing habits would contaminate the design. After all, the purpose was to study writing and the subjects who produced marginal products could be of little help" (1981:10). Moreover, previous studies (Veal and Tillman 1971, San Jose 1973, Rubin and Piche 1979, Freeman and Pringle 1979, Jones, 1981, Hidi and Hildyard 1983, Prater and Padia 1983, Crowhurst 1983, Mohan and Au-Yeung Lo 1985) have also shown that both first and second language young and inexperienced writers have difficulties handling the argumentative mode.

3.2.2 Selection of subjects:

F.4 students came from two classes with a total of 80 students. One class was the Science class, 4A, with 40 students. The other was the Arts class, 4D, with 40 students. According to their English teachers, the Science class was comparatively better in writing proficiency than the

Arts class. All the students wrote for the research as a class assignment. Then 20 students' papers were selected from each class through random sampling to produce a group of 40 students.

F.6 students again came from two classes with a total of 53 students. One class again was the Science class, 6A, with 28 students. The other was the Arts class, 6B, with 25 students. According to their English teachers, the 6A class was comparatively better in their writing proficiency than the 6B class. All the students wrote for the research as a class assignment. Then 20 students' papers were selected from each class through random sampling to produce a group of 40 students.

English majors acted as subjects on a voluntary basis and were compensated for their time. Sixty students showed up to write compositions out of the 80 students who promised two months previously to help in the study. Then 40 students' papers were selected through random sampling by using a random number table to equalize the group size of the three groups.

Although F.6 and F.4 students are at different grades, the holistic marking done by three native speakers of English who were writing instructor and writing tutors in the Language Teaching Unit and the English Department of the Chinese University of Hong Kong shows that there is no significant difference in their writing proficiency although F.6 students still have

higher marks than F.4 students. However, the results show a significant difference between university English majors and F.4 students and between university English majors and F.6 students. Detailed description of the holistic marking procedure is given in the last section of this chapter.

2.3 Collection of the samples:

For F.6 and F.4 students, their English teachers incorporated the two composition assignments into their regular English composition class. F. 6 and F.4 students wrote these two compositions as normal composition assignments. They were not told that they were writing for research purposes because it was believed that their motivation would be higher if they wrote for their final grade in the English subject than if they wrote for research purposes. According to their teacher, they would at least perform normally if these two compositions were simply normal class assignments. The two compositions were written under testing condition. There was no prewriting discussion, and the teacher did not intervene in the composing process. Since the students were accustomed to finishing one composition in one hour's time, the two compositions were done in two successive weeks within one hour each.

Each of the 40 university English majors was told that he/she could come at any time within a week to a room in the library to finish the writing tasks. The experiment was conducted under testing condition. In the experiment, each subject was first given an instruction sheet mentioning that this experiment would contain two parts; each part would take half an hour.

The purpose of the instruction sheet was to prepare subjects psychologically for the two writing tasks, so that they would not lose motivation in writing the second composition. Although the subjects may become tired in writing two compositions at one sitting, the time constraint had to be imposed because it was feared that the number of available subjects might be reduced if they had had to appear on two different occasions. Moreover, it seemed that one hour's work would not be too much for them since they have to write continuously for three hours in their degree examination.

After a subject had read the instruction sheet, the first composition topic (see Appendix 1) was given to him/her. When the time was up, the subject was asked to hand in the composition as soon as possible. Once the first composition had been handed in, the second topic (see Appendix 1) was given. Again when the time was up, the subject was asked to hand in the composition as soon as possible. Before leaving the writing room, the subject would be given a short note asking him/her not to tell his/her

classmates the procedures and composition topics; otherwise, the result of the experiment might be biased. It is not known whether the subjects followed this request, but the quality of the whole group of papers suggests that there was no collusion.

One point that needs to be mentioned here is that the unequal writing time allocated to university English majors and the two groups of secondary students is due to their unequal time of exposure to English and also their different writing proficiency levels. University English majors have at least five more years' exposure to English and they are at the university level. When students' language proficiency level is equal, they should be given the same amount of time for the writing tasks; otherwise, students who work under the longer time limit may perform better than those working under shorter time. However, less proficient writers might require more time for the task than more proficient writers (Quellmalz, 1981). Therefore, the secondary students were given half an hour more for each of the writing tasks. F.6 and F.4 students were given the same time because they were both trained to finish writing one composition of about 300 words in one hour's time in order to meet the requirements of the Hong Kong Certificate of Education Examination.

There are four composition topics in the research design. Two of them belong to the theme of "Chinese New Year," while the other two belong to the theme of "cycling." In each group, half of the students wrote on the first theme and the other half wrote on the second theme. Tasks were

assigned in a cycle of four combinations. The first combination is New Year (narrative)--New Year (argumentative). (Here the word(s) before the parenthesis show(s) the theme, whereas the words inside the parenthesis imply the mode.) The second combination is New Year (argumentative)--New Year (narrative). The third combination is cycling (narrative)--cycling (argumentative). The fourth combination is cycling (argumentative)--cycling (narrative). Thus, the order effect of mode was counter-balanced.

In each group, there were ten students writing respectively on the first, second, third and fourth combinations. They were assigned in the following way. For F.4, this was done through the students' class numbers. Since there were altogether 80 F.4 students, 20 class numbers were chosen first by means of a random number table to write on the first combination. Then another 20 class numbers were chosen to write on the second combination, and another 20 for the third, and fourth combination respectively. In order to equalize the group size of the three groups, to have equal numbers of samples for each combination of topic and to get a manageable group size but with statistical significance, it was determined to have a group size of 40 for each grade. Thus, ten samples were chosen out of 20 from each combination by random sampling.

For F.6 students, the same procedure was repeated. However, since there were altogether 53 F.6 students, 13 class numbers were chosen for each combination of topic; since 53 is not divisable by four, the fourth group had to contain 14 class numbers. Then ten samples from each combination of topic were chosen by random sampling to produce a group of 40.

As for university English majors, a different procedure was adopted because they did not have any class numbers and they came one by one (or in small groups) to the writing room. First, since 80 students promised to help in the research, 20 numbers were chosen by means of a random number table to write on the first combination of topics. Then another 20 numbers were chosen for the other three combinations respectively. The numbers and the corresponding topic combinations had been written down on a piece of paper. On the day of the experiment, a subject was assigned a number according to the order in which he/she showed up in the writing room (for example, the student who arrived at the writing room first would be labelled as number one). Then the researcher, checking against the combination list, assigned this subject the proper topic combination. To produce a total group of 40 students, ten students were chosen out of each topic combination. The design of this study is shown in Table 7.

Table 7

Statistical design of this study

	Theme one		Theme two	
	Narrative	Argumenta-tative	Narrative	Argumen-tative
University English majors	n=20	n=20	n=20	n=20
F.6 students	n=20	n=20	n=20	n=20
F.4 students	n=20	n=20	n=20	n=20

3.2.4 Procedures in hand-scoring the three syntactic and two rhetorical measures:

Guidelines for the syntactic and rhetorical analysis were prepared both for the present study and for future research of similar kinds, so that a scorer may work independently by following them. These guidelines appear in Appendix 4. A syntax summary sheet appears in Appendix 5 and a sample student essay marked for three measures of syntactic complexity and two measures of rhetorical complexity appears in Appendix 6.

3.2.5 Statistics tests used in this study:

SPSSX was used for the computer analysis of data. The statistics tests used were three-way ANOVA (a test which shows the main effect of each variable as well as the 2-way and 3-way interaction effects among variables on dependent measures), one-way ANOVA and t-test. In this study, only those main and interaction effects showing significant differences at least at the 0.05 level were subjected to further analysis because comprehensive treatment of all the differences, both significant and non-significant, would make this report extremely lengthy. Before running these tests, care was taken to see whether the criteria to run these tests were satisfied or not[1]. It was found that the basic criteria for t-test, one-way and three-way ANOVA were all met (see Appendix 7).

3.3 Holistic marking procedure:

In order to see whether there are significant differences in writing proficiency among the three groups of students, 50% of the writing samples were subjected to holistic marking, that is,120 out of 240 samples.

3.3.1 Selection of markers:

The three markers were from the Language Teaching Unit and the English Department of the Chinese University of Hong Kong. One was a writing instructor and the other two were writing tutors. They were all native speakers of English. One of them holds an M.A. degreee, with seven years' teaching experience in Hong Kong, twelve years' experience of marking

compositon papers, and 4 years' experience of marking papers in testing situations. The other two hold a B.A. degree with 1.5 years' teaching experience in Hong Kong, 1.5 years' experience of marking papers, but with no experience in marking paper in testing situations. The three markers ranged from 22 to 35 years of age. One of them is a female. One of the markers volunteered to help in the holistic marking while the other two were compensated for their time.

3.3.2 Writing samples for the holistic marking:

The writing samples for the holistic marking were chosen through stratified random sampling. For each grade (F.4, F.6 and university English majors), 10 samples (50%) were selected through random sampling from the 20 samples for each topic. Since there were four topics at each grade level, the total number of samples for the holistic marking was 40 for each grade. The three grade levels produced 120 samples. All three markers read the 120 samples, so each writing sample was read three times, once by each of the three markers working independently.

3.3.3 The marking scheme and the marker training:

The marker training was conducted by Dr. Robert Kaplan, who also established the scoring guide for the holistic marking. In order to help the markers build up a consistent marking framework, ten writing samples were prepared for the two-hour training, three from the F.4 sample, three

from the F.6 sample, and four from the university English majors sample. They were chosen by random sampling. The ten samples turned out to contain all the four composition topics.

The three markers were first given a copy of the scoring guide for the marking. The rough content of the scoring guide is provided in Appendix 8.

Apart from being given the above scoring guide, the three markers were also given the four composition topics and were told that, in each case, the audience for the composition was prescribed as a class teacher who was a middle-aged Cantonese woman.

One point to mention here is that although the markers were told to pay no particular attention to grammatical accuracy or spelling, this did not imply that grammar would play no role in the marking process because it was assumed that serious grammatical mistakes would inherently affect the writer's ability to communicate, which was the basis for the markers to give a grade. In fact, the marking of compositions for overall effectiveness of communication, rather than for a separate analytical criteria such as structure, spelling, punctuation, or word usage, is also adopted by the new TOEFL writing test starting from 11th July, 1986 (correspondence from TOEFL, March 14,1986).

During the training, the ten samples were grouped into four sets. The first set contains two items, one from the F.4 sample, and one from the university English majors sample. The second set also contains two items, one from the F.4 sample, and one from the university English majors sample. The third set contains three items, one from the university English majors sample, one from the F.4 sample and one from the F.6 sample. The fourth set also contains three items, one from the university English majors sample and two from the F.6 sample.

The three markers were first given the first set. The marking turned out to be 1,3,3 for the first writing sample and 4,4,3 for the second sample. In this marking procedure, the three marks given by the three markers for a certain sample are acceptable only when the difference between any two markers is no more than one point. For example, 1,3,3 was not acceptable, because the difference between the first and the second mark is two although that between the second and third mark is zero. The three marks for the second samples were acceptable, because the differences among the three marks is only one point. In fact, the criterion of one point difference is also used by the new TOEFL writing test.

Seeing the marks for the first set, the marker trainer did not do anything to force any marker to change his/her mind, but simply asked them to justify their marks and told them only one point difference would be accepted in this marking scheme.

The results of the marking of the ten samples in the training session are shown in Table 8.

Table 8

Results of the holistic marking in the training session

sample code number	first marker	second marker	third marker
I	1	3	3
VI	4	4	3
II	1	2	1
VII	3	3	4
IV	3	3	4
X	1	1	2
III	1	2	2
V	3	4	4
YIII	2	4	2
IX	2	2	2

Thus, it can be seen that the three markers marked quite closely and consistently in the training session. Then the scoring of the 120 samples began. At first, it was planned to have all the three markers work together within one day so as to further ensure consistency because then the trainer would supervise the work of the three markers and provide

chances for discussion whenever the discrepancy between any two markers was greater than one point. However, due to scheduling problems, it was impossible to have the three markers come together on the same day except for the two-hour training session. Therefore, they were given five days' time after the training to mark the 120 papers independently. The results turned out to be quite consistent except that there were still 17 samples (i.e. about 14% of all marking samples) which showed more than one point discrepancy among the markers.

Therefore, the three markers came together again one week later for a further discussion, which was meant to make up for their being unable to mark papers together. During this further discussion, the three markers were given back the 17 samples to mark again without seeing their original marks. They were able to agree on the scoring of 14 of the papers. The discrepancies may have been due to their shift in standards during the five days' work or due to their fatique in making 120 samples continuously. As for the remaining three of the 17 samples, the markers were asked first to explain why they gave those marks for the three compositions. Finally, they reached a consensus. The result in the re-marking are shown in Table 9.

Table 9

Results of re-marking for the 17 unacceptable samples

code number	first marker	second marker	third marker
1	2	2	3
*2	2 (3)	4 (3)	3 (2)
3	3	2	2
*4	1 (2)	3	3
5	3	3	2
6	3	3	4
7	4	4	4
8	4	3	4
9	3	3	3
10	2	3	3
11	1	2	1
12	1	1	2
13	2	3	2
14	2	3	2
15	2	2	1
16	2	2	1
*17	3	3	1 (2)

(The "*" means that this sample is still not acceptable even after the second-round marking. The numbers in brackets are the new marks after discussion among the three markers.)

The overall inter-marker correlation is 0.802. How each marker correlates with other two markers is shown in Table 10.

Table 10

Inter-marker correlations

	First marker	Second marker	Third marker
First marker			
Second marker	0.804		
Third marker	0.794	0.808	

Notes:

1. To run an ANOVA test, the following two criteria have to be met:

a. Normal distribution: When the figure of "Skewness" approaches zero, the data can be assumed to form a normal distribution (Siu, P.K, personal communication, May 1986).

b. Homogeneity of variance:

When the size of different groups is equal, this criterion is assumed to be satisfied, since the ANOVA test is not particularly sensitive to the violation of equality of variance under such conditions (Chung, C.M., personal communication, May 1986).

As for the t-test, normally the criterion of being a normal distribution has to be satisfied; however, this test is extremely robust and is not sensitive to the minor violation of this criterion (Yu, F.Y., personal communication, May 1986).

Chapter 4

Results

All findings arrived at are based on the data in this present study only and, therefore, apply exclusively to them. It should also be born in mind that these conclusions do not extend, except very tentatively, beyond this data.

A final word about this chapter is that the present study focuses almost entirely on statistically significant findings. This means that some non-significant trends receive no acknowledgement. It is because a comprehensive treatment of all patterns--both significant and non-significant--would be too time-consuming for this study.

This chapter contains six sections. The first section reports results on the holistic marking. The following five sections correspond to the five research hypotheses.

4.1 Results related to the holistic marking:

The three-way ANOVA shows that grade is the single factor that can affect writing proficiency ($F=81.29$, $df=2$, $p<0.05$). The result is shown in Table 11.

Table 11

Writing proficiency of three grades of students at two modes and two themes as shown by three-way ANOVA.

	Mark		
	F	df	p
main effects	40.80	4	0.000***
Theme	0.61	1	n.s.
Grade	81.29	2	0.0*
Mode	0.03	1	n.s.
2-way interactions	1.96	5	n.s.
Theme/Grade	2.49	2	n.s.
Theme /Mode	0.03	1	n.s.
Grade/Mode	2.40	2	n.s.
3-way interactions	1.42	2	n.s.
Theme/ Grade/ Mode	1.42	2	n.s.

* $p \leqslant 0.05$ ** $p \leqslant 0.01$ *** $p \leqslant 0.001$

A one-way ANOVA was then run to see the detailed performance of each grade. The results show that there is no significant difference in writing proficiency between F.6 and F.4 students. But significant difference in

writing proficiency is found between university English majors and F.6 students, as well as between university English majors and F.4 students, both at 0.05 level. Since there is no significant 2-way interaction effect between grade and mode and between grade and theme, the above finding is true for both modes and both themes. The results are shown in Table 12.

Table 12

Differences in writing proficiency of three grades as shown by one-Way ANOVA test

Group	F.4	F.6	U
F.4			
F.6	n.s.		
U	*	*	

Group mean : F.4 = 1.58
F.6 = 1.93
U = 3.33

(U = stands for university English majors)

(* denotes pairs of groups significantly different at 0.05 level)

Thus in this study, although F.6 students are two years older than F.4 students and 2 years further along in grade level, their writing proficiency, while a little higher, is still not significantly higher than that of the F.4 students. As can be seen in Table 12, the group mean for F.6 students and F.4 students is 1.93 and 1.58 respectively, with a

difference of only 0.35 which is less than half a point in the 4-point scale marking scheme. The discussion of the holistic marking result will be reintroduced along with the findings pertaining to research hypotheses.

4.2 Results related to Hypothesis 1:

Hypothesis 1 states that the variations in syntactic complexity among Hong Kong students at three grade levels will be significantly different in response to different modes or themes. This hypothesis is confirmed for mean T-unit length.

4.2.1 Mean T-unit length (MTL):

As Table 13 shows, although grade shows a significant main effect on mean T-unit length ($F = 39.81$, $df = 2$, $p < 0.001$), grade also interacts significantly with theme ($F = 4.68$, $df = 2$, $p < 0.001$), and with mode ($F = 6.82$, $df = 2$, $p < 0.001$). However, this hypothesis is not confirmed for mean clause length and clauses per T-unit. As Table 13 shows, grade alone can have significant effect on mean clause length ($F = 16.18$, $df = 2$, $p < 0.001$) and clauses per T-unit ($F = 3.63$, $df = 2$, $p < 0.05$). There is no significant 2-way interaction effect between grade and the other two independent variables.

Table 13

The main and interaction effects of grade on three syntactic measures

	MTL			MCL			CPT		
	F	df	p	F	df	p	F	df	p
Main effect									
Grade	39.81	2	0.000***	16.18	2	0.000***	3.63	2	0.028*
2-way interactions									
Theme /Grade	4.68	2	0.010**	2.76	2	n.s.	1.37	2	n.s.
Grade /Mode	6.82	2	0.001***	1.73	2	n.s.	1.87	2	n.s.
3-way interactions									
Theme/Grade /Mode	0.729	2	n.s.	1.36	2	n.s.	0.85	2	n.s.

* $p \leq 0.05$ ** $p \leq 0.01$ *** $p \leq 0.001$

Detailed pictures of the above findings are shown in the following tables and figures.

Interaction effect of grade and theme:

The results are shown in Table 14.

Table 14

Interaction effect of grade and theme on mean T-unit length

Theme 1 :

(New Year)	Group	F.4	F.6	U
	F.4			
	F.6	n.s.		
	U	*	n.s.	

Group mean : F.4 = 10.90 words/T-unit

F.6 = 12.25 words/T-unit

U = 13.37 words/T-unit

Theme 2 :

(cycling)	Group	F.4	F.6	U
	F.4			
	F.6	n.s.		
	U	*	*	

Group mean : F.4 = 11.30 words/T-unit

F.6 = 11.57 words/T-unit

U = 14.00 words/T-unit

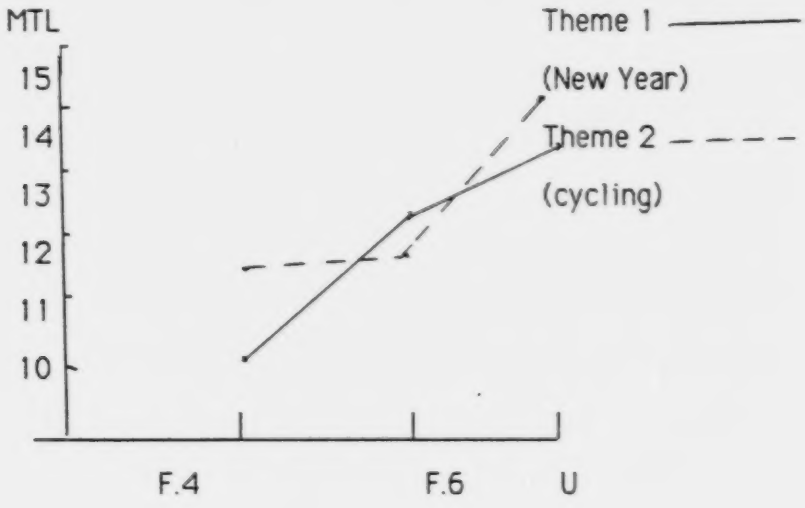
U = university English majors

*denotes pairs of groups significantly different at 0.05 level

The above interaction effects are plotted in Figure 1.

Figure 1

Interaction effect of grade and theme on mean T-unit length



It can be seen that the syntactic variations in mean T-unit length among the three grades of students are significantly different in response to different themes. In the theme of New Year, there is a significant difference in mean T-unit length only between university English majors and F.4 students, but, in the theme of cycling, there is a significant difference between university English majors and F.4 students and between university English majors and F.6 students. Since there is no significant 3-way interaction effect among theme, grade and mode, the above finding is true for both modes.

Interaction effect of grade and mode:

The results are shown in Table 15.

Table 15

Interaction effect of grade and mode on mean T-unit length

narration:	group	F.4	F.6	U
	F.4			
	F.6	n.s.		
	U	*	n.s.	

Group mean: F.4=9.45 words/T-unit

F.6=10.43 words/T-unit

U =11.42 words/T-unit

argument:	group	F.4	F.6	U
	F.4			
	F.6	n.s.		
	U	*	*	

Group mean: F.4=12.75 words/T-unit

F.6=13.40 words/T-unit

U =16.74 words/T-unit

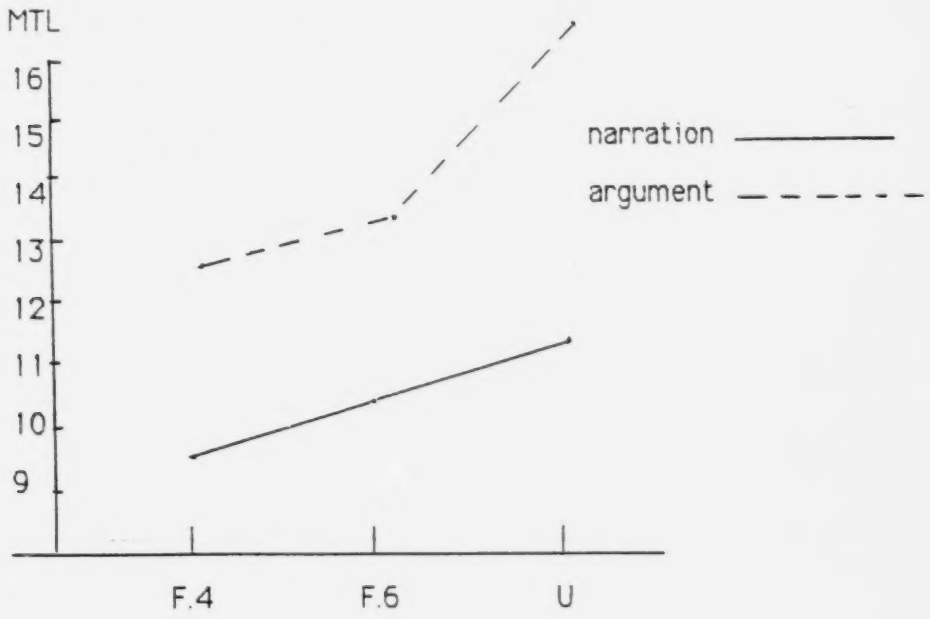
U=university English majors

* denotes pairs of group significantly different at the 0.05 level

The above interaction effect are shown in Figure 2.

Figure 2

Interaction effect of grade and mode on mean T-unit length



It can be seen that the syntactic variations in MTL among three grades of students are significantly different in response to different modes . In the narrative mode, there is signifcant difference only between university English majors and F.4 students, whereas in the argumentative mode, there is significant difference between university English majors and F.4 students and between university English majors and F.6 students. Since there is no significant 3-way interaction effect among theme, grade, and mode, the above finding is true for both themes.

Since the finding that there is significant difference in mean T-unit length between university majors and the F.4 students in the narrative mode is different from that of previous studies (e.g., Crowhurst and Piche 1978, Crowhurst 1978), an error count of the linkage errors was undertaken as a supplementary analysis for the purpose of explanation. The first 240 words for the 120 writing samples which had been used in the holistic marking were subjected to the error count. It was found that the F.4 students made 44 linkage errors in the narrative and argumentative mode respectively, totalling 88 errors. The F.6 students made 30 errors in the narrative and argumentative mode respectively, totalling 60 errors. University English majors made one in the narrrative and two in the argumentative mode, totalling three errors. The above information is shown in Table16.

Table 16

Linkage error count of the three grades in two modes

	Narration	Argument	Total
F.4	44	44	88
F.6	30	30	60
U	1	2	3
Total	75	76	151

U=university English majors

The linkage errors consist of five types:

1) Comma splices:

e.g., Chi Ming slipped away, he wanted to meet his friends.

2) Sentence fragments:

e.g., Although Chi Ming went to the fair. He was unhappy.

3) Run-on sentences:

e.g., Chi Ming slipped away he wanted to meet his friends.

4) Two subordinators are used in one sentence:

e.g., Although Chi Ming went to the fair, but he was unhappy.

5) A subordinator is used wrongly semantically:

e.g., He happened to pass there that he could help Chi Ming.

4.2.2 Mean clause length (MCL):

As can be seen in Table 17, there is no significant difference in mean clause length between F.6 and F.4 students whereas there is between university English majors and the Form F.4 students and between university English majors and the F.6 students (both at 0.05 level). Since there is no significant interaction effect between grade and mode and between grade and theme (See Table 13), the above finding is also true for both modes and both themes.

Table 17

Main effect of grade on mean clause length

group	F.4	F.6	U
F.4			
F.6	n.s.		
U	*	*	

group mean: F.4=8.32 words/clause

F.6=8.71 words/clause

U = 9.42 words/clause

U=university English majors

* denotes pairs of groups significantly different at the 0.05 level

4.2.3 Clauses per T-unit (CPT):

As can be seen in Table 18, there is no significant difference in clauses per T-unit between F.6 and F.4 students, but significant differences exist between university English majors and F.4 students, and between university English majors and F.6 students (both at 0.05 level).

Table 18

Main effect of grade on clauses per T-unit

group	F.4	F.6	U
F.4			
F.6	n.s.		
U	*	*	

U=university English majors

* denotes pairs of groups significantly different at the 0.05 level

Summary of findings on Hypothesis 1:

The first hypothesis is confirmed for mean T-unit length, but not for mean clause length and clauses per T-unit. That is, the differences in mean T-unit length among the three grades of students are significantly different in response to different themes or modes. However, no such phenomenon was found for the differences in mean clause length and clauses per T-unit among the three grades of students.

4.3 Results related to Hypothesis 2:

The second hypothesis states that the syntactic complexity in the argumentative essays written by English majors will be significantly greater than that in their narrative essays.

4.3.1 Mean T-unit length:

The hypothesis is confirmed for this measure ($t=-8.36$, $df=78$, $p\leq 0.001$). The results are shown in Table 19. Since there is no significant 3-way interaction effects among theme, grade and mode (see Table 20), the above finding is true for both themes.

Table 19

The effect of mode on mean T-unit length

among university English majors

	Mean	Pooled t-value	df	p
Narration	11.42	-8.36	78	0.000***
Argument	16.74			

* $p\leq 0.05$ ** $p\leq 0.01$ ***$p\leq 0.001$

Table 20

Main and interaction effects of mode

on mean T-unit length

MTL

	F	df	p
Main effect			
Mode	187.55	1	0.000***
2-way interactions			
Theme/Mode	6.86	1	0.010**
Mode/Grade	6.82	2	0.001***
3-way interactions			
Theme/Grade/Mode	0.729	2	n.s.

* $p \leq 0.05$ ** $p \leq 0.01$ *** $p \leq 0.001$

4.3.2 Mean clause length (MCL):

As can be seen in Table 21, the mean clause length in the argumentative mode is significantly longer than that in the narrative mode ($t=-11.45$, $df=238$, $p\leq0.001$). Because there is no significant 2-way interaction effect between mode and grade and between mode and theme (see Table 22), the above finding is true for all three grades and both themes.

Table 21

Main effect of mode on mean clause length

	mean	Pooled t-value	df	p
Narration	7.75			
		-11.45	238	0.000***
Argument	9.89			

* $p\leq0.05$ ** $p\leq0.01$ *** $p\leq0.001$

Table 22

The main and interaction effects of mode on mean clause length

MCL

	F	df	p
Main effect			
Mode	178.72	1	0.000***
2-way interactions			
Theme/Mode	2.76	2	n.s.
Mode/Grade	1.73	2	n.s.
3-way interactions			
Theme/Grade/Mode	1.36	2	n.s.

* $p \leq 0.05$ ** $p \leq 0.01$ *** $p \leq 0.001$

4.3.3 Clauses per T-unit (CPT):

As can be seen in Table 23, this measure in the argumentative essays is significantly greater than that in the narrative essays (t=-4.32, df=238, $p<0.001$). Because there is no significant 2-way interaction effect between mode and grade and between mode and theme (see Table 24), the above finding is true for all the three grades and both themes.

Table 23

Main effect of mode on clauses per T-unit

	Mean	Pooled t-value	df	p
Narration	1.34	-4.32	238	0.000***
Argument	1.46			

* $p<0.05$ ** $p<0.01$ *** $p<0.001$

Table 24

Main and interaction effects of mode on clauses per T-unit

CPT

	F	df	p
Main effect			
Mode	4.91	1	0.028*
2-way interactions			
Theme/Mode	1.37	2	n.s.
Mode/Grade	1.87	2	n.s.
3 -way interactions			
Theme/Grade/Mode	0.85	2	n.s.

* $p<0.05$ ** $p<0.01$ *** $p<0.001$

Summary of the findings related to Hypothesis 2:

The second hypothesis is confirmed for all the three syntactic measures. That is, the syntactic complexity in argumentative essays written by university English majors is significantly greater than that in their narrative essays.

4.4 Results related to Hypothesis 3:

Hypothesis 3 states that the syntactic complexity in the argumentative essays written by the F.4 and F.6 students will not be significantly greater than that in their narrative essays.

4.4.1 Mean T-unit length (MTL):

The third hypothesis is not confirmed for this measure. As can be seen in Table 25, the results turned out to be just the opposite to this hypothesis. That is, the syntactic complexity in the argumentative essays written by F.4 and F.6 students is significantly greater than that in their narrative essays ($t=-7.6$, $df=78$, $p<0.001$).

Table 25

The effect of mode on mean T-unit length for F.4 and F.6 students

		mean	Pooled t-value	df	p
F.4	Narration	9.45	-7.6	78	0.000***
	Argument	12.75			
F.6	Narration	10.43	-7.35	78	0.000***
	Argument	13.40			

* $p<0.05$ ** $p<0.01$ *** $p<0.001$

Since there is no significant 3-way interactions among theme, mode and grade (see Table 20), the above finding is also true for both themes.

4.4.2 Mean clause length (MCL):

As can be seen in Table 21, mean clause length in the argumentative essays is significantly longer than that in the narrative essays ($t=-11.45$, $df=238$, $p<0.001$). Because there is no significant 2-way interactions between mode and grade and between mode and theme (see Table 22), the above finding is also true for all the three grades of students and for the two themes.

4.4.3 Clauses per T-unit (CPT):

As can be seen in Table 23, the number of clauses per T-unit in the argumentative essays is significantly greater than that in the narrative essays ($t=-4.32$, $df=238$, $p<0.001$). Because there is no significant 2-way interaction effects between mode and grade as well as between mode and theme (See Table 24), the above finding is also true for all three grades of students and for the two themes.

Summary of the findings on Hypothesis 3:

The third hypothesis is not confirmed for all the three syntactic measures. The results showed that the syntactic complexity in the argumentative essays written by F.4 and F.6 students is significantly greater than that in their narrative essays.

4.5 Results related to Hypothesis 4:

Hypothesis 4 states that the rhetorical complexity in the argumentative essays written by university English majors will be significantly greater than that in their narrative essays.

4.5.1 The total number of six types of subordinate clauses(TSC):

This hypothesis is confirmed for this measure ($t=-3.00$, $df=78$, $p<0.01$) The results are shown in Table 26. Because there is no significant 3-way interactions among theme, grade and mode, this finding is also true for the two themes (see Table 27).

Table 26

The effect of mode on TSC for university English majors

	mean	Pooled t-value	df	p
Narration	6.93	-3.00	78	0.004**
Argument	8.68			

* $P<0.05$ ** $p<0.01$ *** $p<0.001$

Table 27

The main and interaction effects of mode on TSC

TSC

	F	df	p
Main effect			
Mode	0.28	1	n.s.
2-way interactions			
Theme/Mode	18.87	1	0.000***
Mode/Grade	4.61	2	0.011*
3-way interactions			
Theme/Grade/Mode	0.365	2	n.s.

TSC=Total number of six types of subordinate clauses

* $p \leq 0.05$ ** $p \leq 0.01$ ***$p \leq 0.001$

4.5.2 The Number of types of subordinate clauses used (NT):

As can be seen in Table 28, there is no significant difference in NT between the argumentative and narrative mode. That is to say, the number of types of subordinate clauses in each mode is not significantly different. Because there is no significant 2-way interaction effect between mode and grade (also see Table 28), this finding is true for all three grades of students.

Table 28

The main and interaction effects of mode on NT

for three grades of students

	NT		
	F	df	p
Main effect			
Mode	2.15	1	n.s.
2-way interactions			
Theme/Mode	12.48	1	0.000***
Mode/Grade	0.44	2	n.s.
3-way interactions			
Theme/Grade/Mode	1.447	2	n.s.

NT=Number of types of subordinate clauses used

* $p \leq 0.05$ ** $p \leq 0.01$ *** $p \leq 0.001$

Summary of the findings on Hypothesis 4:

This hypothesis is confirmed for the measure of TSC, but not for the measure of NT.

4.6 Results related to Hypothesis 5:

It states that the rhetorical complexity in the argumentative essays written by F.4 and F.6 students will not be significantly greater than that in their narrative essays.

4.6.1 Total number of six types of subordinate clauses (TSC):

The fifth hypothesis is confirmed for this measure. That is, no significant difference is found in TSC between the argumentative and narrative essays written by the F.4 and F.6 students. The results are shown in Table 29.

Table 29

The effect of mode on TSC for F.4 and F.6 students

		mean	Pooled t-value	df	p
F.4	Narration	7.20	0.17	76	n.s.
	Argument	7.07			
F.6	Narration	8.4	1.34	77	n.s.
	Argument	7.38			

* $p \leq 0.05$ ** $p \leq 0.01$ *** $p \leq 0.001$

4.6.2 The number of six types of subordinate clauses used (NT):

This hypothesis is also confirmed for this measure. That is, no significant difference is found in NT between the argumentative and narrative essays written by the F.4 and F.6 students (see Table 28). Since there is no significant 3-way interactions among theme, grade and mode, the above finding is true for three grades of students and for two themes (also see Table 28).

Summary of the findings on Hypothesis 5:

No significant differences are found between the argumentative and narrative essays written by F.4 and F.6 students in terms of the two measures of rhetorical complexity.

4.6.3. Supplementary analysis of the six components of TSC:

Below is a supplementary analysis which looks into the six components of TSC, the purpose of which is to see whether there is significant difference across modes for each of these six types of subordinate clauses. The results are shown in Table 30.

Table 30
The main and interaction effects of mode
on six types of subordinate clauses

p-value (level of significance)

	ADT	ADC	ADO	ADP	R	N
Main effects						
Theme	n.s.	n.s.	0.006**	.	n.s.	n.s.
Grade	n.s.	0.003**	n.s.	.	0.000***	0.000***
Mode	0.047*	n.s.	0.000***	.	n.s.	n.s.
2-way interactions						
Theme/Grade	n.s.	n.s.	n.s.	.	n.s.	n.s.
Theme/Mode	0.018*	n.s.	n.s.	.	n.s.	n.s.
Mode/Grade	n.s.	n.s.	n.s.	.	0.003**	n.s.
3-way interactions Theme/Grade/ Mode	n.s.	n.s.	n.s.	.	n.s.	n.s.

"." denotes that the number of this type of subordinate clauses is too small for statistical analysis
ADT=adverb clause of time
ADC=adverb clause of cause and consequence
ADO=adverb clause of condition and concession
ADP=adverb clause of purpose
R =relative clause
N =noun clause

It can be seen from Table 30 that mode has a significant influence on ADT ($p<0.05$) and ADO ($p<0.001$). Because there is no significant 2-way interaction effect between mode and grade, this finding is true for all three grades of students in this study. From the same Table, it can be seen that whether there is a significance difference in the number of relative clauses across modes depends on the grade levels of students, because there is a significant 2-way interaction effect between mode and grade on the measure of relative clause ($p<0.01$).

Further analysis showed that all the three grades of students wrote significantly more adverb clauses of time in the narrative mode than in the argumentative mode ($t=2.26$, $df=179$, $p<0.05$) (see Table 31). On the other hand, they all wrote significantly more adverb clauses of condition and concession in the argumentative mode than in the narrative mode ($t=-4.33$, $df=125$, $p<0.001$) (see Table 31).

Table 31

The effect of mode on ADT and ADO

	mean		Pooled t-value		df		p	
	ADT	ADO	ADT	ADO	ADT	ADO	ADT	ADO
Narration	2.21	1.27	2.26	-4.33	179	125	0.025*	0.000***
Argument	1.82	2.14						

* $p \leq 0.05$ ** $p \leq 0.01$ *** $p \leq 0.001$

On the other hand, the university English majors distinguished themselves from F.4 and F.6 students by using significantly more relative clauses in the argumentative mode than in the narrative mode ($t=2.73$, $df=58$, $p<0.01$). This finding is shown in Table 32.

Table 32

The interaction effect of mode and grade

on the number of relative clauses

		mean	Pooled t-value	df	p
F.4	Narration	1.50	1.89	42	n.s.
	Argument	1.2			
F.6	Narration	1.75	1.71	42	n.s.
	Argument	1.33			
U	Narration	1.96	-2.73	58	0.008**
	Argument	3.14			

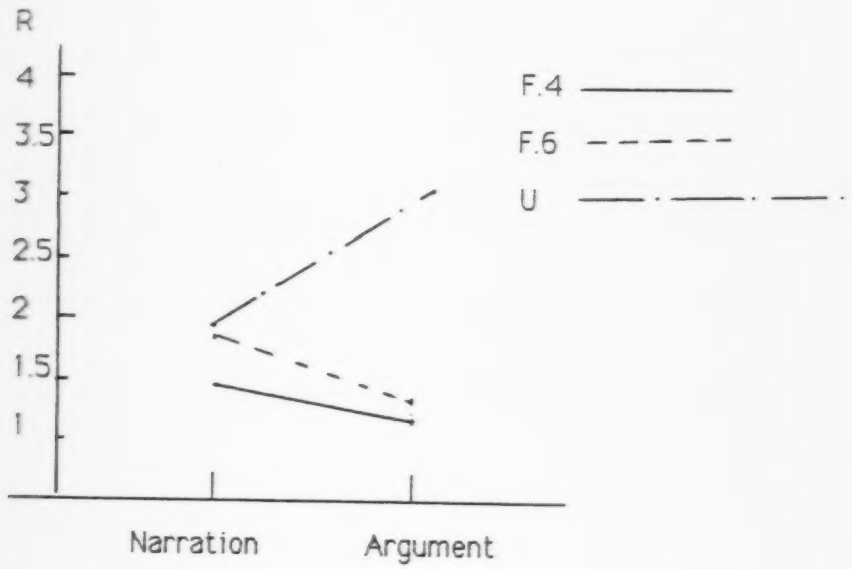
U=university English majors

* $p \leq 0.05$ ** $p \leq 0.01$ ***$p \leq 0.001$

The above interaction effect can be seen more clearly in Figure 3.

Figure 3

Interaction effect of mode and grade on the number of relative clauses



From this figure, it can be seen clearly that only university English majors write significantly more relative clauses in the argumentative mode than in the narrative mode, F.4 and F.6 students, however, tend to do just the opposite; that is, they write even more relative clauses in the narrative mode than in the argumentative mode. However, since the greater number of relative clauses in F.4 and F.6 students' narrative essays is not significant at the 0.05 level, this finding is only tentative. But even though F.4 and F.6 students write more relative clauses in the narrative mode, the number they write is smaller than the number written by university English majors.

Summary of the supplementary analysis on the six components of TSC:

All three grades of students write significantly more adverb clauses of time in the narrative mode than in the argumentative mode, but they write significantly more adverb clauses of condition and concession in the argumentative mode than in the narrative mode. University English majors distinguished themselves from the two secondary groups by using significantly more relative clauses in the argumentative mode.

Chapter 5

Discussion and limitations

5.1 Discussion:

1.1 Discussion of the findings on Hypothesis 1:

Hypothesis 1 states that variations in syntactic complexity among Hong Kong students at three grade levels will be significantly different in response to different modes or themes.

In supporting the first hypothesis, the data in this present study also lend credence to several other studies which have preceded this one; for example, Crowhurst and Piche (1978), Crowhurst (1978), Freedman and Pringle (1979). Watson (1979), and Combs (1980). These several studies also found that syntactic variations among different grades of students are significantly different in response to different modes or themes . However, this present study distinguished itself from the other earlier studies in that it reveals that there are significant syntactic differences in the narrative essays written by university English majors and F.4 students. But Crowhurst and Piche (1978) pointed out that the narrative mode is not useful for examining the development of syntactic complexity. They found no significant syntactic differences between 6th and 10th graders in the narrative mode. Freedman and Pringle (1979) arrived at the same conclusion. They found 7th graders used even more words and more clauses per T-unit than 8th graders.

Two possible reasons might be offered for this:

1) The findings of these several studies may not be generalized beyond their own data, since Crowhurst herself arrived at a different conclusion in her second study in 1978. She found that there were significant syntactic differences in the narrative mode between 6th and 10th graders; this finding was contradictory to her first study in the same year. On the other hand, in the same study, she found no significant syntactic differences in the narrative mode between 10th and 12th graders.

2) Maybe the significant syntactic differences between university English majors and F.4 students is mainly due to the low writing proficiency of F.4 students; that is, they have not yet been brought to the level of proficiency necessary for the writing of text. There are three clues for the above speculation:

First, in the narrative mode, there is no significant syntactic difference between university English majors and F.6 students, but there is between university English majors and F.4 students.

Second, it is observed that there is a tentative suggestion that F.4 students' writing proficiency is lower than that of F.6 students, although the difference between them is not significant at the 0.05 level.

Third, the error count of linkage errors reported in chapter 4 (p. 92) seems to suggest that in foreign language environment, grammatical mistakes, especially linkage errors, can greatly shorten mean T-unit length. As

mentioned earlier, the kind of grammatical mistake which was paid attention to in this study during the hand-scoring analysis is the linkage error. For example, if a subordinator is used in an inappropriate way syntactically or semantically, the linkage between the two clauses is assumed to have failed, resulting in two separate T-units. For example, the ungrammatical sentence "He happened to pass there that he could help him." was treated as two T-units because 'that' constitutes an inappropriate link here.

On the basis of the above three clues, it seems that there may exist a level of writing proficiency above which the narrative mode does not produce significant syntactic differences among student writers learning English as a foreign language, paralleling the findings of Crowhurst (1978) and Freedman and Pringle (1979) that no significant syntactic development can be observed from the narrative mode in the first language environment.

5.1.2 Discussion of Hypothesis 2 and 3:

Hypothesis 2 states that the syntactic complexity in the argumentative essays written by university English majors will be significantly greater than that in their narrative essays. Hypothesis 3 states that the syntactic complexity in the argumentative essays written by F.4 and F.6 students will <u>not</u> be significantly greater than that in their narrative essays.

The finding related to the second hypothesis that university English majors' syntax is significantly more complex in the argumentative mode than in the narrative mode supports the finding of previous research (e.g., San Jose 1973, Crowhurst and Pich 1978, Crowhurst 1978, Freedman and Pringle 1979, Watson 1979). However, the finding of the third hypothesis that even F.6 and F.4 students can show this difference came as a surprise to the present researcher, because it was suspected that F.4 and F.6 students would have difficulty handling the argumentative mode, affecting syntactic complexity in that mode. Since there are two other measures of rhetorical complexity to show how student writers handled these two modes, the discussion of the findings of Hypothesis 2 and 3 are combined with those of Hypothesis 4 and 5.

5.1.3 Discussion of Hypothesis 2, 3, 4 and 5

Hypothesis 4 states that the rhetorical organization in the argumentative essays written by university English majors will be significantly more complex than that in their narrative essays. Hypothesis 5 states that the rhetorical organization in the argumentative essays written by F.4 and F.6 students will not be significantly more complex than that in their narrative essays.

Hypothesis 4 is confirmed for the measure of TSC (the total number of six types of subordinate clauses); that is, the rhetorical complexity in terms of this measure in the argumentative essays written by university English majors is significantly greater than that in their narrative essays. However, this hypothesis is not confirmed for the measure of NT. Although

this hypothesis is not confirmed for the measure of NT, this finding provides important information that, for all three grades of students, the number of types of subordinate clauses is not significantly different across modes. The distribution of clause types was not examined in this study, but the question of distribution (e.g., whether relative clauses modify subject or object NPs) needs further analysis and remains available to future studies.

Hypothesis 5 is also confirmed for the measure of TSC; that is, F.4 and F.6 students failed to show the complex rhetorical organization of the argumentative mode in terms of this measure. The overall results of Hypothesis 2,3,4,5 show that significant differences in rhetorical complexity across the argumentative and narrative modes is found only in essays written by university English majors, and not in those written by F.4 or F.6 students. However, significant differences in syntactic complexity across modes is found in each of the three grade levels. The overall results show that, although F.4 and F.6 students write significantly longer T-units, longer clauses, and more clauses per T-unit in the argumentative mode, their argumentative essays are no more complex than their narrative essays in terms of rhetorical organization as measured by TSC.

This finding seems to suggest that the complex rhetorical organization of the argumentative mode is indeed a difficult area for the F.4 and F.6 students represented in this study. In fact, it is very likely that young or inexperienced writers have difficulties with the rhetorical organization of

the argumentative mode because writing an argumentative essay involves the problem of how to support one's argument with reasons, examples, details, etc., which, in turn, involves the thinking skills like that of analysis, synthesis and evaluation.[1] These thinking skills are realized as the following writing skills in this study: to state one's beliefs, opinion, suggestions, viewpoint, etc.; to add important information to the head noun; to state purpose, cause and consequence, condition and concession, as well as the timing of certain actions, ideas, etc. Thus, it can be seen that the thinking/writing skills in the argumentative mode are more complex than those in the narrative mode which involves telling a story organized mainly in chronological or spatial order.

The above speculation also has some tentative support from the following observation: the rhetorical complexity of the narrative essays written by F.4 and F.6 students is even greater than the compexity of their argumentative essays. F.4 students write 0.12 more subordinate clauses and F.6 1.02 more in their narrative essays than in their argumentative essays. Moreover, from F.4 to F.6, students seem to improve more in the narrative mode in terms of rhetorical complexity (difference=1.20) than in the argumentative mode (difference=0.20). However, since these differences are not significant at the 0.05 level, the above observations are tentative.

The finding that the argumentative essays written by F.4 and F.6 students are no more complex than are their narrative essays in terms of rhetorical organization meets the present researcher's expectation. What surprises the present researcher is the finding that even F.4 and F.6 students can write argumentative essays which are significantly more complex syntactically than narrative ones. The reason may be as follows: The complex nature of the argumentative mode inherently leads to longer T-units, longer clauses, and more clauses per T-unit even in essays which are low in rhetorical complexity. That is to say, the complexity of the argumentative mode may be reflected in sentence-level syntax even by students with low writing proficiency, but the complexity of this mode may not achieve an effect at the "rhetorical level" by students with low writing proficiency. It seems that sentence-level syntactic complexity is easier for low-writing-proficiency students to achieve, whereas it appears to require a much longer period of effective exposure to the target language and the acquisition of thinking skills necessary for the writing of an argumentative essay to achieve the greater rhetorical complexity of the argumentative mode.

5.2 Limitations:

1) Like other studies of syntactic development, the present study is mainly a quantitative analysis, paying little attention to the quality of the writing. For example, in counting the total number of T-units, no check has been made to see whether the meanings of these T-units are appropriate to the overall content, whether some ideas are repetitive, etc.; e.g., one F.6 students created a long initial T-unit by listing all the traditional customs associated with the Chinese New Year and concluded his essay by repeating the sentence, essentially without change.

> Recently, some people suggest that the traditional customs including a dinner on the Eve of Chinese New Year, buying things for the festival, couplets, visiting friend, going to the temple, cleaning and decorating houses, giving lucky money should be abolished...As a conclusion, I do not agree that the traditional customs including a dinner on the Eve of Chinese New Year, buying things for the festival, couplets, visiting friends, going to the temple, cleaning and decorating houses, giving lucky money should be abolished.

Although F.4 and F.6 students' writings do show significant quantitative syntactic differences across modes, whether the differences are also qualitative is still subject to question. This worry is not superfluous especially in a foreign language environment like that in Hong Kong where some secondary students are in the habit of writing irrelevant or repetitive text simply to meet the writing requirement of 300 words.

2) In analyzing the rhetorical complexity of the essays, only clauses were included in this study because of time limitations. Consequently, the findings reported in this study are only applicable to clauses. A more comprehensive picture might be obtained if clauses *and phrases* showing the six writing skills (see chapter 1, p. 13) were to be analyzed. The exclusion of phrase structures weakens the claim made that F.4 and F.6 students fail to show the complex rhetorical organization of the argumentative mode. The possibility that they support their arguments mainly with phrase structure cannot be excluded; however, direct observation by the present researcher shows that the number of phrase structures in F.4 and F.6 students' writings is very small. The texts written by university English majors do contain some phrase structures. Even under the present analysis of clause structure only, their writings show significant differences across modes in terms of rhetorical organization; therefore, the analysis of clauses alone has proved useful, at least for the data in this study.

Apart from the problem of phrase structures, the claim that F.4 and F.6 students fail to show the complex rhetorical organization of the argumentative mode is also weakened by the possibility that F.4 and F.6 writers achieve complexity through the use of conjuncts (e.g., <u>therefore</u>, <u>thus</u>) or even without explicit logical connectors. (e.g., by picking up the last element of a previous sentence as the subject of the next sentence;

that is, by topic/comment chaining; cf., Lautamatti 1986). However, these two broad categories were not included in the analysis because of the limitations of time. This is not a qualitative study, so the question of whether other devices which achieve cohesion and coherence have been used or are more (or less) effective has not been addressed.

Notes:

1. Making adaptations of Bloom's educational objectives (1956), Sanders (1966, cited in Adams-Smith 1986) defined these terms as follows:

Analysis: solving a problem in light of conscious knowledge of the parts and forms of thinking.

Synthesis: solving a problem that requires original creative thinking.

Evaluation: making judgement of good or bad, right or wrong, according to standards designated by the students.

Chapter 6

Conclusion and implications

6.1 Conclusion:

The findings of this study are summarized as follows:

1) The variations in mean T-unit length among the three grades of students are significantly different in response to different themes or modes. However, the differences in mean clause length and clauses per T-unit among the three grades of students are not affected by different themes or modes.

2) The syntactic complexity in the argumentative essays written by university English majors is significantly greater than that in their narrative essays.

3) The syntactic complexity in the argumentative essays written by F.4 and F.6 students is significantly greater than that in their narrative essays.

4) The rhetorical complexity in the argumentative essays written by university English majors is significantly greater than that in their narrative essays.

5) The rhetorical complexity in the argumentative essays written by F.4 and F.6 students is not significantly greater than that in the narrative essays.

6) Findings 2), 3), 4) and 5) seem to suggest the notion that sentence-level syntactic complexity of the argumentative mode as measured by Hunt's three indices is easier for low-writing-proficiency students to achieve, whereas it appears to require a much longer period of effective exposure to the target language and the acquisition of thinking skills necessary for the writing of an argumentative essay to achieve the greater rhetorical complexity of the argumentive mode as measured by the total number of six types of subordinate clauses.

7) All university English majors, F.6 and F.4 students wrote significantly more adverb clauses of condition and concession in the argumentative mode than in the narrative mode, but all wrote more adverb clauses of time in the narrative mode than in the argumentative mode. University English majors distinguished themselves from the two secondary groups by using significantly more relative clauses in the argumentative mode.

While the limitations and findings of this study restrict its generalizability, there has been sufficient demonstration of overlaps with other research presented in the review of the literature to present some implications of this research. The research suggests that there is a real difference between the argumentative and narrative modes. It follows that, if such a difference can be confirmed through other research, then exposing students only to the narrative mode will not prepare them to express themselves in other modes. There is a truism in education that students learn what they are taught. This research shows that F.4 and F.6 students do not know how to write argumentation,

although they do know how to write narration. If argumentation is viewed by the educational system as constituting a useful academic skill, then it follows that the structure and form of argumentation needs to be effectively taught. This research does not address the question of when argumentation should be introduced into the educational system. The research presented here does suggest several component thinking/writing skills necessary to argumentation, although it does not examine when or whether those skills are introduced into the educational system. It appears that 3rd and 4th year university English majors have acquired the requisite skills for argumentation; it may be deduced that somewhere between the end of F.6 and the 3rd year of university study, these skills are somehow introduced.

The interesting questions still to be addressed are: 1) When are these skills introduced? 2) Might they be productively introduced earlier? 3) Are there optimal stages of development for learning them? 4) How can they be mostly effectively taught? 5) Are the teachers who teach these skills, in fact, proficient in their use? 6) what might be necessary in teacher training programs to assure teachers' proficiency in these skills? These questions are clearly beyond the scope of this study. What this study does show is that at least the two modes studied do require different skills and that F.4 and F.6 students, for whatever reason, do not seem to have these skills. Since this study is quantitative, it merely presents an inventory of some of the skills; it cannot offer value judgements on the relative efficacy of the skills inventoried.

6.2 Implications for future research and classroom teaching:

6.2.1 Implications for future research:

1) Based on the findings of the present research and on a comparison with the outcomes of other similar syntactic studies, it is felt that there is a need for a broad study within mode or across modes which will examine whether the use of narrative mode can cause significant differences in syntactic complexity over a great range of grade levels or whether there exists a level of writing proficiency above which the narrative mode will produce no significant syntactic difference. Since it is found that there is no significant difference in writing proficiency between F.6 and F.4 students in this study, it is suggested that future studies look at more grades and at larger differences between grades (e.g., F.4, F.7, 2nd and 4th year university English majors). The result of holistic marking or that of any standard proficiency test (e.g., TOEFL), should be taken as reference to see whether there are real grade differences. It is also recommended that it is better to have a group of student writers from university level because they are more competent in terms of writing proficiency and can provide a contrastive group to compare with secondary students.

2) Not only are studies of a greater range of grade levels needed in future, but also there is a need to examine a greater range of discourse types. Future studies can look at other discourse modes (e.g., description, exposition) to see how syntactic complexity varies between native speakers and foreign language students.

3) As mentioned earlier, the complexity of the argumentative mode can be reflected in sentence-level syntax even by students with low writing proficiency, but the complexity of this mode cannot be reflected at the level of discourse organization by those students with low writing proficiency level. It would be interesting to repeat this study over a stratified sample of F.4 and F.6 students with better writing proficiency or by including F.7 students.

4) Future research can expand the definition of rhetorical complexity employed in this study by including phrases, conjuncts and/or implicit coherent devices expressing the six writing skills (to state opinion, belief, suggestion; to state the timing of certain action, ideas etc; to state cause and consequence; to state condition and concession; to state purpose, and to add important information to the head noun).

5) It seems that rhetorical complexity may be more clearly reflected in a qualitative study than in a quantitative one. As mentioned earlier, one of the limitations of this study is that it is mainly quantitative, paying no attention to whether some ideas are repetitive or irrelevant to the overall content. A detailed qualitative text analysis of how discourse topic is developed in terms of exemplification, definition, etc. may also be useful. There are several systems in existence which could be employed in such studies; cf., Kaplan 1986a in Appendix 9.

6.2.2 Implications for teaching:

1) Teachers are advised to vary writing assignments according to rhetorical purposes and themes, so as to provide students with greater opportunities to exercise their syntactic repertoires more fully; for example, given that the argumentative mode elicits longer T-units, long clauses and more clauses per T-unit, argumentative tasks may be assigned at higher grade levels.

2) Since length of T-units, length of clauses, and embedding of clauses vary according to modes and themes, it seems that some writing teachers' expectations of long sentences from students in all modes of writing is not realistic. Rather, teachers should be aware that the narrative mode usually elicits shorter T-units and clauses and fewer clauses per T-unit, whereas the argumentative mode is characterized by considerably longer T-units. A student does not regress to an earlier stage of development when he/she writes about personal experiences and emotions. And in writing longer T-units, students take the risk of producing more syntactic anomalies than they would on a different kind of writing assignment. Consequently, there is a need for greater flexibility in evaluating students' writings and in dealing with shorter, longer, and syntactically aberrant T-units.

3) Since the narrative mode is characterized by the use of more adverb clauses of time, and the argumentative mode is characterized by the use of more adverb clauses of condition and concession, it is recommended that lessons on clauses of time should be accompanied by one or two

composing assignments in the narrative mode. Similarly, lessons on clauses of condition and concession may be accompanied by one or two composing assignments in the argumentative mode. These assignments would not specify that students must use these kinds of clauses, but the juxtapositions of exercises compatible with assignments in a given discourse type would create mutual reinforcement.

4) The findings in this study also provides tentative evidence that becoming more mature as a writer of the narrative mode is not parallel to growth in the argumentative mode, or in any other mode. As shown in the finding of this study, F.4 and F.6 students failed to show rhetorical complexity characteristic of the argumentative mode. There may be a need to develop the thinking skills necessary for the argumentative mode for the EFL students in this study, because there may be a gap between the cognitive demands of the argumentative mode and the thinking skills the F.4 and F.6 students have developed (cf., Costin. In progress). There may also be a need to teach the EFL writers about the top-level rhetorical organization of argumentative texts, and to teach them how to choose an appropriate plan to accomplish specific communication goals (Constantinides and Hall 1981).

Since reading and writing are complementary processes (Carrell 1986) ESL writing teachers should coordinate writing and reading activities. For example, teachers can teach the identification of text structure. Meyer (cited in Carrell 1986) has pinpointed five basic types of expository text structures: causation, comparison, problem/solution,

description, and time-order. She does not claim that these five types are either exhaustive or definitive, but rather that they represent distinctive types (cf., Carrell 1986: 32-51). To coordinate reading and writng activities, writing teachers can provide students with practice in using different text structures on a variety of topics after introducing students to different text structures, together with pre-writing discussion to help students organize their ideas conceptually, as has been advocated by teachers/researchers concerned with writing as a process rather than as a product (e.g., Mckay 1981).

The use of an outlines or other visual devices (e.g., visual outlines, pyramids or boxes with connecting lines) can be of great help to student writers to understand the hierarchical order in the content of most texts. An outline can function to help the writer to return periodically to the higher levels of the content hierarchy.

Apart from teaching students the hierarchical structures of a text, writing teachers should also teach the students the linguistic signals (e.g., thus, therefore, consequently, nevertheless, further, and the words like evidence, details, summarization, and conclusion),so that they can communicate the hierarchy or text organization more effectively. This can be done by employing pre-writing activities that help students to decide what to say and how to say it. Composition instruction has been focused on the product rather than on the composing process, with much classroom time devoted to sentence manipulatiion and usage exercises. Such exercises have little effect in promoting understanding of the

rhetorical aspects of writing. The pre-writing activity can show the student how to select a way of organizing the topic, how to select the style and rhetorical arrangement, and how to select the most useful syntactic patterns.

In short, this study reveals that inexperienced writers have great difficulty writing in the argumentative mode, and one of the difficulties lies at the rhetorical level. Perhaps writing teachers can help their students organize their ideas conceptually for the composition topic, for example, through pre-writing discussion. Writing teachers are also advised to teach their students the rhetorical organization for the argumentative mode and the various syntactic structures needed to express their ideas effectively.

Appendices

Appendix 1

Writing tasks (Chinese versions)

新春大吉

金銀滿屋

(請隔行書寫)　　時間：一小時(不計閱讀指示的時間)

請用英文寫一篇三百字以上的故事。故事內容：

一個十六歲的青年志明，事先約了幾個同學在年卅晚逛街，但因為父親堅持要全家人一起去行年宵花市，唯有勉強陪家人去。當晚在花市趁家人不覺，靜靜溜走。但和同學在一起時，又發生多件不愉快事件，最後返回花市想尋回家人。

你寫這個故事的目的是要吸引讀者的興趣。若要寫出一個適合你讀者的故事，就要注意你讀者的身份：你的讀者是一位在中學任教的英文科老師。她年約四十歲，是中國人，並在香港住了多年。但是你卻完全不認識她。

以下是故事大綱。你的故事一定要包括下頁左手面的情節，但右手面的，則可有可無。如能加入其他情節，則更理想。

(轉下頁)

137

左(一定要包括這些情節)　　右(可有可無)

1. 父親的決定
2. 為何志明不願意去：約了同學。
3. 大除夕晚(Chinese New Year Eve)
   志明怎樣處理這個問題：
   i) 勉強(reluctantly)隨家人去花市(fair)
   ii) 靜靜溜走(slipped away)
4. 與同學見面時，發生事件令他快(unpleasant)事件 ——例如→
   i) 只有一個同學赴約
   ii) 買不到戲票
   iii) 兩人都遺失了銀包
5. 志明怎樣嘗試在年宵市場找回家人，種種方法都找不到。 ——例如→
   i) 拿人廣播(loud speaker service)
   ii) 兜一圈(walked around)
   iii) 在出口處(exit)等。
6. 之後，又怎樣？ ——例如→
   i) 問陌生人借交通費或步行回家
   ii) 回家後，發覺家人已在家中

注意：
1. 括號內的英文可用可不用。
2. 這篇是作文，不是中譯英的練習，所以你無需逐個字譯成英文。你只需領略其意，然後用自己的英文來表達。

(轉下頁)

3. 以上的情節只是故事大綱。若要寫一篇能吸引讀者興趣的故事，你要將上述大綱加以發揮，或加入其他情節。

請開始寫作，並寫下開始的時間：_____

(轉下頁)

食完團年飯，
一於全家一
齊去行花市。

(請隔行書寫)　　時間：一小時(不計閱讀指示的時間)

請用英文寫一篇三百字以上的議論文。題目是：

"The traditional customs in Chinese New Year should be abolished." (廢除) Do you agree? Argue in favor of your position.

假定你的讀者的觀點剛好與你相反，你寫這篇議論文的目的就是要令這位讀者接受你的觀點。要寫出一篇有說服力的文章，就要注意這位讀者的身份：你的讀者是一位在中學任教的英文科女教師。她年約四十岁，是中國人，並在香港住了多年。但是你完全不認識她。

以下有一些問題供你參考，希望有助你想出贊成或反對的論點。如能發揮個人論點，則更理想。

(轉下頁)

"新年风俗"这题是指拜年(visit friends),食团年饭(a dinner on Chinese New Year Eve),派利是(lucky money),揸春(couplets),买年货(buy things for the festival),大掃除(clean and decorate houses)等。

赞成废除新年风俗

1. 浪费金錢 — 利是
   — 新衣服
   — 装修裝飾等
2. 浪费精力 — 买年货
   及時間 — 拜年等
3. 現代人的生活形式(life style)與思想還會重視这些傳統风俗嗎?
4. 利是錢如何影响青年人在新年期间的消费
5. 罪案增減與過年的関係.

反對废除新年风俗

1. 新风俗,如团年飯與家人團聚(family reunion)的関係
2. 新年风俗,如拜年,是否有助於朋友,親戚間的見面
3. 新年期间的消费,如買新衣服等,怎樣刺激經濟(stimulate economy)?
4. 給人们帶来新希望,
   - 如去廟宇(temple)
   - 揸春(couplets)
5. 新年风俗如何給予港的日常生活添上色彩(add colour to)
6. 若沒有這些风俗,新年的氣象(atmosphere)會变成怎樣?

(轉下頁)

注意：

1. 括號內的英文可用可不用。
2. 這篇是作文，不是中譯英的練習，所以你無需將上述的中文逐個字翻譯。你只要明白意思，然後用自己的英文表達。
3. 你不需要用到全部論點。但是如果你想寫篇有說服力的文章，你就應該將你寫下的每個論點加以發揮，例如通過列舉原因，事例、細節等。

請開始寫作，並寫下開始的時間：_____

（背面）

144

(請隔行書寫)　　時間：一小時(不計閱讀指示的時

請用英文寫一篇三百字以上的故事。故事內容：上星期日，你
誰去踏單車，但走咁的單車都失去控制。結果受了重
傷，其他同學於是便互相合作，想辦法送他入院。

你寫這個故事的目的，就是要吸引讀者的興趣。若
要寫出一個適合你讀者的故事，就要注意你讀者的
身份：你的讀者是一位在中學任教的英文科女教師。
她年約四十歲，是中國人，並在香港住了多年。但是你
完全不認識她。

以下是故事大綱。你的故事一定要包括下列在手冊的
情節，但右手冊的，則可有可無。若你能加入其他
情節，則更理想。

(轉下頁)

左（一定要包括这些情節）	右（可有可無）
2. 踏單車期間發生什麼事： - 單車比賽（Competition） - 同學更得興奮（excited） - 在一個偏僻（remote）、汽車不到的地方，志明的單車失去控制。志明重傷。	1. 旅行前的預備： - 各同學的提議 - 最後決定去踏單車
3. 其他同學如何合作幫助志明 例如	a. 叫十字車（ambulance） b. 簡單緊急救援（first-aid treatment） c. 跑去大路（main road）截車。
4. 所有方法失敗，最後志明需由直昇機（helicopter）送入醫院。	

注意：

1. 括號內的英文可用可不用。
2. 這篇是作文，不是中譯英的練習，所以你無需將上述中文逐個字翻譯，你只要領略其意，然後用自己的英文表寫。
3. 以上左手面的情節，只是故事大綱。若要寫一篇吸引讀者的故事，你要將這些情節加以發揮，或加入其他情節。

請用略寫你，並寫下用時的時間：_____ （轉下頁）

162

(請隔行書寫)　　時间：一小時(不計阅讀指示的時间)

請用英文寫一篇三百字以上的議論文。題目是：

"A cyclist (踏單車者) should have a licence before he/she is allowed to ride in the countryside or in the urban area." Do you agree? Argue for your position.

假定你讀者的意見與你剛好相反。你寫這篇議論文的目的，就是要令这位讀者接受你的觀點。若要寫出一篇有说服力的文章，就要注意这位讀者的身份：你的讀者是一位在中學任教的英文科女教師，她年約四十岁，是中国人，並在香港住了多年。但是你完全不認識她。

以下有些問題供你參考，希望有助你想出贊成或反對的論點，如此發揮個人論點，则更理想。

(事事下頁)

贊成領牌

1. 考牌 (get a licence) 與踏單車技術的關係

2. 有牌与否和下列事情的關係：
   i) 認識交通規則 (traffic regulation)
   ii) 減少交通擁塞 (traffic congestion)

3. 要考牌如何影响踏單車者對這種活動的看法？
   例如：會否因而变得比較認真 (serious)

4. 考牌與法律責任 (legal responsibility) 的關係：
   例如：吊銷牌照 (cancel)
   違例罰款等。

5. 考牌提高家長和警方的關注後，單車活動會否变得更安全。

反對領牌

1. 考牌與增加有關部門人手的關係：如發牌和其他有關事項

2. 由開始至獲得牌照，考牌者 (licensees) 會否損失很多時間？

3. 在鄉區 (countryside) 或其他較安全的地方，需否高度技術？

4. 學生經濟能力可否支付考牌的一切費用？

5. 考牌會否影响踏單車這種户外活動 (outdoor activity) 的普及性 (popularity)

6. 單車徑 (cycling paths) 的作用

注意：

1. 括號內的英文可用可不用。

2. 這篇是作文，不是中譯英的練習，所以你無需逐個字翻譯上述的中文。你只需領略其意，然後用自己的英文表達出來。

3. 你不需要用齊全部論點，但若你要寫一篇有說服力的文章，你应該好好考慮下的每個論點，加以發揮，如適過到舉原因、事例、細節等。

請開始寫作，並寫下開始的時間：_____ (寫下頁)

請在交卷前，數清楚是否33等，並填妥這份問卷：

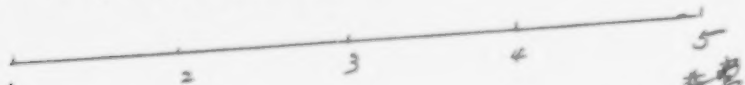
1. 完成作文的時間：_____ 共需幾分鐘：_____

姓名（中文）：_____ 性別：_____ 年齡：_____

文科/理科：_____

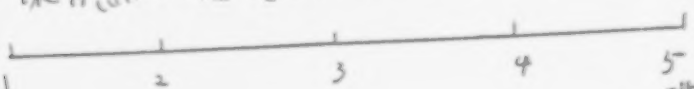
2. 請"√"出你認為合適的數字：

(a) 你覺得這個題目（topic）有趣還是沉悶？



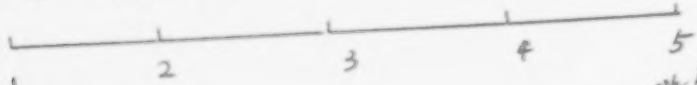
非常沉悶　　非常有趣

(b) 你有無心機（motivated）寫這篇文？



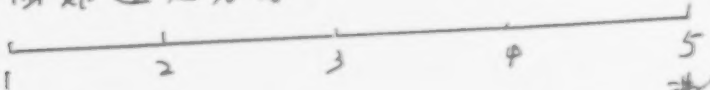
完全無心機　　非常有心機

(c) 你對這個題目的內容熟悉（familiar）還是陌生？



非常陌生　　非常熟悉

(d) 寫這篇文時，你覺得找寫作靈感（writing ideas）困難還是容易？



非常困難　　非常容易

Appendix 2

The writing tasks

The first topic: theme--New Year

mode--narration

Please write a story in English of at least 300 words. A sixteen-year-old young man, Chi Ming, had promised his classmates a social gathering on Chinese New Year Eve. However, owing to his father's insistence that all the family members should go to the fair together, he could do nothing but went to the fair reluctantly. However, he slipped away to meet his classmates while his parents were not paying attention to him. Although he was successful in slipping away, many unpleasant things happened during their gathering. Finally, Chi Ming had to go back to the fair and try to meet up with his family again.

The purpose of writing this story is to hold your reader's interest. To be successful in doing so, you have to pay attention to who your reader is. Your reader is a 40-year-old female Cantonese teacher who teaches English in a secondary school. You don't know her at all. She has lived in Hong Kong for many years.

Below is the story outline. Your story must include the following plots on the left column, but those on the right column are optional. You are also advised to imagine other plots to make the story more interesting.

left column (you must include these plots)		right column (these plots are optional)
1. father's decision		
2. why Chi Ming was unwilling to go		
3. (on Chinese New Year Eve), how did Chi Ming handle this dilemma i) to go to the (fair) with his family (reluctantly) ii) and then (slipped away)		
4. when he was with his classmates, many (unpleasant) things happened	e.g.,	1) only one classmate showed up 2) they could not buy the tickets for the movie 3) they lost their wallets
5. How did Chi Ming try to look for family members again in the fair. However, all the methods failed.	e.g.,	1) used the (loud speaker service) 2) (walked around) the fair 3) waited at the (exit)

6. what happened then e.g., 1) borrowed money from a stranger or walked back home on foot
2) discovered that his family were at home already

Note:

1. The English translations inside the parentheses are only for your reference. You may choose not to use them.

2. This is a composition and not a translation exercise, so you don't have to translate the Chinese into English word by word. Rather, you should get the main idea of the story, and then express the idea in your own English.

3. The plots provided are only the story outline. If you want to write a story that can hold your reader's interest, you will have to add more interesting details.

The second topic: theme--New Year
mode--argumentative

Please write an argumentative composition of at least 300 words. The topic is : "The traditional customs in Chinese New Year should be abolished. Do you agree? Argue in favor of your position.

Suppose your reader's viewpoint is just opposite of yours. Your purpose of writing this composition is to convince your reader of your viewpoint. If you want to be convincing, you must pay attention to who your reader is: your reader is a 40-year-old female Cantonese teacher who teaches English in a secondary school. You don't know her at all. She has lived in Hong Kong for many years.

Below are some ideas for your reference. It is hoped that these questions will help you formulate your argument points. You are also advised to use ideas of your own.

Note:

1. The traditional customs in Chinese New Year referred to in this outline are: lucky money, couplets, buying things for the festival, cleaning and decorating houses.

argument points in favor of the idea of abolishing the traditional customs:	arguement points against the idea of abolishing the traditional customs:
1. Waste money	1.The relationship between
-lucky money	traditional customs, e.g.
-money to buy new clothes	a dinner on Chinese New
-money to decorate houses	Year Eve and (family reunion)
2. Waste energy and time	2. Will the traditional customs
-buying things for the	e.g. visiting friends, help to

festival
-visiting friends

3. Will people in this modern time still respect these customs?
-Is there any conflict between the life style of modern men and these customs?

4. How does lucky money affect youngsters' expenditure during the festival?

5. The relationship between an increase in crime rate and this festival

promote the relationship among relatives and friends?

3. How does the expenditure before and during the festival (stimulate economy)?

4. Bring new hope to people
e.g, going to (temples)
e.g., (couplets)

5. How do the traditional customs (add color to) the routine life?

6. What will the atmosphere in this festival become without these customs?

Note:

1. The English translations inside the parentheses are only for your reference. You may choose not to use them.

2. This is a composition, and not a translation exersise, so you don't have to translate the Chinese into English word by word. Rather, you should get the main idea, and then express the idea in your own English.

3. You don't have to use all the argument points provided. However, if you want your arguments to convincing, you will have to support your argument by giving reasons, examples, details etc.

The third topic: theme--cycling

mode--narrative

Please write a story in English of at least 300 words. Last Sunday, your class went cycling, but Chi Ming's bicycle went out of control and he was seriously injured. The other classmates cooperated to help him and tried every means to send him to hospital.

The purpose of writing this story is to hold your reader's interest. To be successful in doing so, you have to pay attention to who your reader is. Your reader is a 40-year-old female Cantonese teacher who teaches English in a secondary school. You don't know her at all. She has lived in Hong Kong for many years.

Below is the story outline. Your story must include the following plots on the left column, but those of the right column are optional. You are also advised to imagine other plots to make the story more interesting.

Left column (you must include these plots)	Right column (these plots are optional)
	1. The preparation before the class activity: -classmates' various suggestions -the final decision: to go cycling
2. What happened when cycling: -cycling (competition) -classmates got (excited) -in a remote place where cars could not reach, Chi Ming' bicycle went out of control; he was seriously injured.	
3. How other classmates cooperated to help him	e.g. -called for an (ambulance) -applied (first-aid treatment) -ran to the (main road) to stop passing cars
4. All the methods failed. Finally, Chi Ming had to be sent to hospital by helicopter.	

Note:

1. The English translations inside the parentheses are only for your reference. You may choose not to use them.

2. This is a composition and not a translation exercise, so you don't have to translate the Chinese into English word by word. Rather, you should get the main idea, and then express the idea in your own English.

3. The plots provided are only the story outline. If you want to write a story that can hold your reader's interest, you will have to add more interesting details.

The fourth topic: theme--cycling

mode--argumentative

Please write an argumentative composition of at least 300 words. The topic is "A cyclist should have a licence before he/she is allowed to ride in the countryside or in the urban area." Do you agree? Argue in favor of your position.

Suppose your reader's viewpoint is just opposite of yours. The purpose of writing this composition is to convince your reader of your viewpoint. If you want your argument to be convincing, you must pay attention to who your reader is: your reader is a 40-year-old female Cantonese teacher who teaches English in a secondary school. You don't know her at all. She has lived in Hong Kong for many years.

Below are some ideas for your reference. It is hoped that these ideas can help you formulate your argument points. You are also advised to use ideas of your own.

argument points in favor of the idea of getting a licence	argument points against the idea of getting a licence
1. The relationship between (getting a licence) and the cycling skills	1. The relationship of getting a licence and the employing of more staff in the transportation department, e.g., issuing licence and other relevant procedures
2. The relationship of getting a licence with a cyclist's knowledge of (traffic regulation). Or: The relationship of getting a licence with the easing of (traffic congestion)	2. Will (licensees) lose much time in getting a licence?
3. How will getting a licence affect cyclists' attitude towards cycling activity? e.g., will they become more (careful) when cycling?	3. In the (countryside) or in other safer places, is it necessary to have high skills?
4. The relationship between getting a licence and the (legal responsibility):	4. Will the (popularity) of cycling as a kind of

e.g., -(cancelling) the licence
-a fine for breaking traffic regulations

(outdoor activities) be affected by this idea?

5. Will cycling become safer after the idea of getting a licence catches attention of parents and police?

5. Can students afford the licensing fee?

Note:

1. The English translations inside the parentheses are only for your reference. You may choose not to use them.

2. This is a composition and not a translation exercise, so you don't have to translate the Chinese into English word by word. Rather, you should get the main idea and then express the idea in your own English.

3. You don't have to use all the argument points provided. However, if you want your argument to be convincing, you should support your argument by giving reason, examples, details, etc.

The writing tasks for the English majors were basically the same except for the description of thr reader. The description of the reader is as follows: your reader is a 40-year-old female Cantonese in the English department of the Chinese University of Hong Kong. You don't know her at all. She has lived in Hong Kong for many years.

Appendix 3

Questionnaire:

1. What do you think of this topic, interesting or boring ?

1 2 3 4 5

very very

boring interesting

2. Are you motivated or not in writng this composition?

1 2 3 4 5

not highly

motivated at all motivated

3. How do you feel about this topic, familiar or not familiar?

1 2 3 4 5

not very

familiar at all familiar

4. Do you find it easy or difficult to get writing ideas?

1 2 3 4 5

very very

difficult easy

Appendix 4
Analysis of syntactic and rhetorical complexity

4.1 Guidelines for syntactic analysis:

By dividing the total word in a composition by the total number of T-units, mean T-unit length can be obtained. Similarly, by dividing the total number of words of a composition by the total number of clauses (both main and subordinate), mean clause length can be obtained. Therefore, it is necessary to count the total number of words, T-units and clauses first.

4.1.1 Total words in a composition:

1) All the 240 samples were counted for the figure of "total number of words" regardless of whether the total number of words falls short of or exceeds 300 words, because the length of the compostion needed to be divided by the total number of T-units contained in this composition in order to get the mean T-unit length. Thus, mean T-unit length would not be affected by total number of words of the composition.

2) Contraction and hyphenated compounds were counted as two words. In this study, any chunk of letters containing no hyphens or blanks in-between is counted as one word.

3) Words in essay titles were not counted.

4) Question tags were excluded in the total word count.

5) All numbers were converted to English words and counted according to the number of words converted. For example, "27" was converted to twenty-seven, resulting in two words.

6) In counting the total number of words, the following words were neglected in dialogues: "Hey," "all right," "yes, "well," "really," "O.K." "Bye," "Hello," and "Ouch," etc.

7) Proper names in the address form were not included when counting the total number of words in a composition as in the following examples:

Chi Ming, "I want to go with my friends."

However, in the following sentence, "Chi Ming said" was counted in the total number of words because "Chi Ming said" was treated as one main clause. Chi Ming said, "I want to go with my friends."

4.1.2 Total number of T-units:

Hunt's T-unit is a main clause plus all subordinate structures embedded or attached to it, both clausals and non-clausals. However, in the writings of Hong Kong secondary students, who learn English as a foreign language, there are a lot of grammatical mistakes which Hunt did not discuss. Although some second language researchers (Gaies 1976, Larsen-Freeman and Strom 1977, Larsen-Freeman 1978, Vann 1978) have proposed the use of error-free T-units, the grammatical errors are so numerous that the number of error free T-units would be too few for valid statistical analysis. Thus, a new system for handling the grammatical errors in the writing samples of this study was established.

The key point of this system is to ignore grammatical errors except those concerning the boundary of a T-unit (e.g., errors in using cohesive devices like although, however, etc.). The errors concerning punctuation marks used with these cohesive devices will also be taken into consideration. For ambiguous ungrammatical sentences, an arbitrary decision was made in the present study. The detailed description of the T-unit segmentation procedure is as follows:

1) When direct discourse (quoted conversation) occurs in the text, the marking and counting of T-units should be as follows: the first quoted T-unit after a conversation tag is counted as a subordiante clause attached to the tag. All subsequent T-units within the same quotation are then counted as separate T-units, not as subordinate clauses (Watson 1979). The following example provided by Watson (1979) can illustrate this point:

> Albert asked, "Have you seen my pencil sharpener?/ I know it's around here somewhere, / but I just can't find it."/

In this example, the slash indicates the ending boundary of a T-unit. Thus, it can be seen that there are three T-units here.

2) When a T-unit is interrupted by another chunk of words, then this interrupting chunk is bracketed and is not counted as any T-unit unless this chunk of words can form a T-unit by itself. The words in this interrupting chunk are, however, included in the count of total number of words. Examples:

a) The film--[believe or not]--is beginning in half an hour. (1 T-unit, 1 clause)

b) The keys I lost I'm always losing something important were returned to the the central office. (2 T-units, 3 clauses)

c)The film--I believe--is beginning in half an hour. (2 T-units, 2 clauses)

d)The film is beginning in half an hour--I believe. (2 T-units, 2 clauses)

Note:

If this "I believe" had opened the T-unit and/or had not been set off by commas, this T-unit could have been analyzed differently. "I believe" would have been the main clause of the T-unit and "the film is beginning in half an hour" would have been the subordinate noun clause, object of "believe". For example,

I believe the film is beginning in half an hour. (1 T-unit, 2 clauses)

4.1.3 Total number of clauses (both main and subordinate):

Main clauses, coordinate clauses (marked by coordinative conjunctions: and , but, or, for, nor, yet) and subordinate clauses (marked by subordinate conjunctions like although, because, since, if, etc.) are counted to form the total number of all clauses. Main and coordinate clauses are also counted as separate T-units in the T-unit counts. In case of grammatical mistakes, and in ambiguous cases, the T-unit and clause segmentation procedure is as follows:

1) If a "clause" contains no main verbs (when there should be one), then it is still counted as one clause. Examples are given below:

a) Somebody even so naive as to claim that the sudden upsurge in criminal rate is attributable to the New Year. (2 cl, 1T)

In this example, the sentence is treated as two clauses and one T-unit. The "cl" in the parenthesis stands for "clause," and the "T" stands for T-unit. In the following examples, the same short forms are used.

b) He responsible for the job, but he didn't do it well. (2 cl, 2 T)
c) If they need to do so, to go one by one, and not to carry other people on their bikes. (3 cl, 1 T)

2) If a "clause" contains more than one main verb (when there should be only one) and there are several possible ways of interpretation, count it as one clause. Examples:

I saw a man [walked outside.]
[walk(ing) outside.]
The house were dirty were clean.
People also like buy some things to display their houses.
It is usually the adult give some lucky money to children.
I remember an event happened last year.
There is an event happening now.
The man found his daughter crying (cried).

3) If there is a subordinator, and if there is a verb in a "clause", then it is counted as one clause, even if there is no subject in this "clause."

Examples:

a) After cleaned the house, she left. (2 cl, 1 T)

b) While approach the end of the slope, he was unable to slow down. (2 cl, 1T)

However, if the phrase structure is used correctly, then it is counted as one clause only. Examples:

After cleaning the house, she left. (1 cl, 1T)

4) If a conjunction or conjunct is used in a syntactically or semantically inappropriate way then the linkage between the two clauses is assumed to have failed, resulting in two separate T-units. If the punctuation mark adjacent to the conjunction or conjunct is used wrongly, it is also treated as a syntax error. Examples:

a) Since I got up late. I was late for school. (2 cl, 2 T) [syntactic]

b) I got up early, however, I was still late. (2 cl, 2T) [syntactic]

c) He happened to pass by the same route that he could help him. (2 cl, 2T) [semantic]

d) Although it is right or wrong, it is also the color of the Chinese New Year. (2 cl, 2T) [semantic]

e) They always plan their new plans for the future, so that this customs is good to people. (2 cl, 2T) [semantic]

5) An exclamation is counted as one clause even if the main verb has been omitted. Example:

What a beautiful day! (1 cl, 1T)

6) Treat a colon as conjunct. Examples:

a) He has only one alternative: he will go back home. (2 cl, 2T)

b) The first idea was: "I 'll talk to my father." (2 cl, 2T)

c) He has only one alternative: to go back home. (1 cl, 1T)

7) Treat "that is", "How come" as conjuncts. Examples:

a) That is (to say), it is the rationale of performing the customs. (1 cl, 1T)

b) How come you are so late. (1 cl, 1T)

8) Clauses of comparison are treated as two clauses except when the verb in the second clause in omitted. Examples:

a) He cycled as fast as a rocket did. (2 cl, 1 T)

b) He cycled as fast as a rocket. (1 cl, 1 T)

c) He is as old as she. (1 cl, 1 T)

d) She is as old as she is. (2 cl, 1 T)

9) Apart from these eight categories, there are also other miscellaneous examples which are quoted here for future researchers' reference:

a) Hope you don't mind. (2 cl, 1 T)

b) He was struck by a phrase "all of the three can't go with us." (2 cl, 2 T)

c) I bid him "take care." (1 cl, 1 T)

d) "I am going to ask you." (1 cl, 1 T)

e) Chi Ming, "I am going to ask you." (1 cl, 1T)

f) The licences guarantee not only that they have the skill to ride on roads, but also (that) they know the regulation of using the road. (3 cl, 1 T)

g) Chi Ming was transported to the hospital by a helicopter, because it was swift and Mary kept him accompany. (3 cl, 2 T)

h) Not only he studies hard, so does Chi Ming. (2 cl, 2 T)

i) He did not know why. (1 cl, 1 T)

j) People live in a different place, they hadn't got visit their friends. (2 cl, 2 T)

4.1.4 Mean T-unit length (MTL):

Mean T-unit length is the average number of words per T-unit. It is calculated in the following way: divide the total number of words in a composition by the total number of T-units.

4.1.5 Mean clause length (MCL):

This is the average number of words per clause (main and subordinate). It is calculated in the following way: divide the total words in a composition by the total number of all clauses.

4.1.6 Clauses per T-unit (CPT):

This figure is calculated in the following way: divided the total number of clauses by the number of T-units. It represents the average number of clauses a writer uses per T-unit.

4.2 Guidelines for the analysis of rhetorical complexity:

In analyzing rhetorical complexity, the way to segment subordinate clauses follows basically the guidelines set for analyzing syntactic complexity. However, in this process, one more thing has to be considered: determining the types of subordinate clauses.

The two measures of rhetorical complexity are "the total number of six types of subordinate clauses" (TSC) and "the number of types of subordinate clauses used" (NT). In order to calculate the first measure, the number of each of the six subordinate clauses has be to counted first. Then by adding these six individual number, the first measure of rhetorical complexity, can be obtained.

Below are some guidelines for determining the types of the subordinate clauses and counting the number of a certain type of subordinate clause.

4.2.1 Noun clauses (N):

These are the clauses which function syntactically as nominals in larger clauses at subject, object, complement, adjective complement, or object of preposition.

1) That clause as complement of the verb be.

a) The truth is that it is not the children who have changed but their parents (Winter 1982:62).

2) That clauses which are post-modifier-like structures for the adjective as complement in the clause. Examples:

a) She is afraid that she will have to go home (Winter 1982:63).

b) She is very glad that her husband is not attracted by greyhound racing (Winter 1982:64).

A grammatical feature of these that clause complements is that their that items can be readily deleted, with the adjective itself signalling the clause pattern. Example:

She is very glad her husband is not attracted by greyhound racing (Winter 1982:64).

In addition to noun clauses signalled by that as subordinator, there is a second type signalled by the elements what, who(m), when, where, why, how, if. They can appear in object positions. Although these clauses are syntactically similar to relative clauses, their wh-items differs in that it is both nominal head and subordinator of its clause.

3) In subject position. Example:

Exactly what does he feel when he takes the drugs may, to some extent, be governed by what does he expect he will feel.

4) Factive noun clauses attached to the subject of a finite verb. Examples:

a) The belief that all women are born to be house-keepers is silly.

b) He was surprised by the fact that everyone showed up in spite of the storm.

c) Considering the possibility that the committe would not approve the proposal in its present form, we decided to re-draft it.

5) As complement to the dummy subject "it". Example:

It was peculiarly appropriate that Durham should be a city of refuge (Winter 1982:172).

4.2.2 Relative clauses (R):

This count includes all subordinate clauses which modify nouns--restrictive, non-restrictive relative clause, and cleft sentences. Examples:

a) The books that sit on the shelf...

b) The time (when) I got my first piano...

c) The place (where) I used to play...

d) John, who loves to play tennis...

e) The dishes (that, which) I inherited from my grandmother...

f) The reason (why) I came here...

g) It is their vulnerability as much as anything which makes adults want to care for them (Winter 1982:55)

It should be noted that a cleft sentence is counted as a marked form of the relative clause. Winter pointed out that "unlike the normal relative clauses, this clause is not a defining clause but marks the role of its antecedent for a declarative clause" (1982:55).

Another point to make is that a careful distinction must be made between factive noun clauses and relative clauses which begin with that. Factive noun clauses, which also begin with that, often follows nouns like fact, idea, claim, observation, notion, belief, theory, thought, concept, possibility, hypothesis, etc. They are not to be counted as relative clauses. The difference between a relative that clauses and a noun that clause is
demonstrated in the following pair of sentences:

a. The fact that I learnt about Albert's personality keeps me from being angry with him. (relative clause)
b) The fact that the earth is round does not surprise me. (factive noun clause)

4.2.3 Adverb clauses of time (ADT):

Adverb clauses introduced by the following subordinators are counted in this category:

when	whenever
until	even when
till	after

every time

while (only when while refers to time, not when it means whereaś)

since (only when since refers to time, but not when it means because)

as (only when as means while or when, not when it means because.)

once (as in "once we had finished dinner, we left his house.")

4.2.4 Adverb clauses of cause and consequence (ADC):

Adverb clauses introduced by the following list of words are counted in this category:

as (when as means because not when it refers to time)

since (when since means because not when it refers to time)

because (when because is used in the following way, it is also counted in this category: "It is because I was sick.")

4.2.5 Adverb clauses of condition and concession (ADO):

Adverb clauses introduced by the following words are counted in this category:

if	although
even though	though
even if	unless
excepting that	in case
in the event that	on the condition that
whereas	granting (that)
no matter what	no matter how
whether or not	considering that

while (when while means whereas)

while (when <u>while</u> means <u>whereas</u>)

whatever
however
wherever
who(m)ever

} (when these introduce clauses which mean <u>no matter what, no matter how...</u>)

<u>4.2.5 Adverb clauses of purpose (ADP):</u>

Adverb clauses introduced by the follwing words are counted as this category:

so that in order that

However, the pseudo-cleft sentence (e.g., What we want is Watneys) and its reversed form (e.g., Watneys is what we want) are excluded in the analysis, since Winter pointed out that "in spite of having the functions of S [subject] or C [complement] in such clauses, these wh-clauses are not noun clauses but require consideration as special forms of subordination structures" (1982:67).

Apart from knowing how to determine the types of subordinate clauses, it is also important for the scorer to set a limit to the length of the student writers' essays because longer compositions will possibly result in more subordinate clauses. An artificial control for the length was devised. In the writing samples collected, most of the English majors wrote more than 300 words for each composition, whereas there were only about 56% of the F.4 students who could write at least 300 words. Through tabulation of the F.4 students' writing samples, it was discovered that

91% of the F.4 students could write at least 240 words, whereas only 77% of them could write at least 270 words. Therefore, the first 240 words were chosen for the analysis of rhetorical complexity from all the writing samples (including those from the F.6 students and the English majors), so that samples which are highly representative of the F.4 students' writing ability can be obtained.

Moreover, owing to the technical problem of whether to count a subordinate clause whose ending boundary exceeded the 240-word limit, a range of about 20 words was adopted in setting the limit of the compositions rather than a fixed length such as 240 words. The range is from 240 to 260 words inclusive, that is, $\pm$ 5% of 250 words. That is to say, if a subordinate clause starts before the 250th word, this clause will be counted. However, if a clause starts after the 250th word, then it is not counted. The samples which were shorter than 240 words were dropped.

Appendix 5

Sample syntax summary sheet

I.D.No.____

total number of words:_____

total number of T-units: _____

total number of clauses:_____

MTL:_____

MCL:_____

CPT:_____

ADT:_____

ADC:_____

ADO:_____

ADP:_____

R:_____

N:_____

TSC:_____

NT:_____

Appendix 6

Student writing sample

The argumentative essay was written by a F.6 student in response to the writing task: "'The traditional customs in Chinese New Year should be abolished.' Do you agree? Argue in favour of your position." The whole essay was subjected to syntactic analysis while only the first 240 to 260 words were subjected to rhetorical analysis. The measures of syntactic complexity are shown as below: the arabic numeral indicates the number of T-units in sequence, whereas the arabic numeral with a parenthesis indicates the number of clauses (both and subordinate) in sequence. As for the rhetorical complexity, the 250th word is shown by putting a slash after it. All subordinate clauses are underlined, with the appropriate letter designation in a parenthesis at the end of the line showing what type of subordinate clause it is.

Traditionally, the Lunar New Year has its significant role in people's mind. 1 (1) In fact, there are varied reasons (2) <u>which can explain (R) (3) why people are in favour of those traditional customs.</u> (N) 2 (4)

In the first place, traditional customs such as giving lucky money or buying things for the festival can add color to our gloomy life. 3 (5) No doubt, we are all in high spirits in New Year. 4 (6)

In the second place, the dinner on Chinese New Year Eve has its prominent significance. 5 (7) Family reunion is always recalled on that special day. 6 (8)

Moreover, visiting friends in Lunar New Year is also welcome. 7 (9) Much closer and friendly relationships can be seen. 8 (10) The Lunar New Year is such a wonderful Festival. 9 (11) It helps to drew human relationship much closer. 10 (12) Lunar New Year is a peaceful and joyful festival. 11 (13) I prefer this festival to others. 12 (14) The reason is simple. 13 (15) I love the unique calm and Joyful atmosphere in it. 14 (16)

Besides, we all enjoy cleaning and decorating houses during the days. 15 (17) I think (18) most of the youngsters in Hong Kong are resourceful and risilient. (N) 16 (19) In fact, it is the good chance for us to help our parents. 17 (20) Furthermore, wearing new shoes and clothes is also one of the traditional customs (21) that we prefer. (R) 18 (22) Especially the young ones including teenagers and youngsters are busy in buying clothes during Lunar New Year. 19 (23) Though the consumption of youngsters do not help to stimulate economy.(ADO) (24) it is still reasonable to say (25) that this traditional custom can help brighten up our spirits. (N) 20 (26)/250

What is more, superstitious customs such as going to temple and decorating houses by couplets are still the popular customs practise by most families. 21 (27) As people believed (28) that those customs can bring good hopes.22 (29) It can also help to cherish the coming year. 23 (30) Consequently, all troubles and bad luck will be driven away. 24 (31)

It is still believable (32) that there is magic power in those couplets. 25 (33) In a word, practising of these customs besides bringing good hopes to us, also help flourishing our spirits. 26 (34) It is really worth practising it. 27 (35)

All in all, traditional customs should be abolished or not is still open to question. 28 (36) However, I totally support those fight for the continuation of traditional customs in Lunar New Year. 29 (37) As, being a Chinese, it is notably our responsibility to help the continuation of it. 30 (38)

Appendix 7

Results showing the criteria of t-test and ANOVA have been basically met

	MTL	MCL	CPT	MARK	TSC	NT
Skewness	1.090	1.433	0.824	0.431	0.099	-0.288
Group size	equal	equal	equal	equal	equal	equal
(F.4	40	40	40	40	40	40)
(F.6	40	40	40	40	40	40)
(U	40	40	40	40	40	40)

Appendix 8

Scoring guide for the holistic marking

The papers were written by students at three grade level; however, the concern in this grading activities is not to separate students by grade level, but rather to determine the relative writing proficiency of students in relation to each other. Read each paper quickly and try to form a general impression of the paper. You will be asked to assign a grade between 1 and 4. 1 and 2 constitute papers in the lower half, while 3 and 4 constitute papers in the upper half of this gruop. First try to decide whether the paper belongs to the upper or lower half, then try to narrow your decision to one of the possible grades.

The intent is to look at how well the paper communicates. Pay no particlar attention to grammatical accuracy or spelling. Try to ignore the problems with prepositions, articles, and third person singular verb forms. Rather, try to look at the overall structure of the text. Is it cohesive? Is it coherent? Is the argument (if there is one) reasonable? Is it repetitive? Read every word; do not try to make a judgement off the first few sentences. It is possible that a paper may start off very well and deteriorate as it goes along, or that it may start off badly but get better as it goes along. The purpose is to evaluate the whole paper rather than any segment of the paper. When you have decided upon an appropriate grade for each composition, mark your grade, together with the code number of the composition, on the separate scoring sheet provided to you. Do not make any marks on the composition itself. Read each composition only once; do not re-read the whole composition or any part of it unless you have forgotten the import of some particular passage. If you re-read any part of composition, do not allow the re-reading to influence your

grade. Do not make any notes to yourself. As soon as you have finished with one compositon, go on to the next. Allow no more than 3-5 minutes to any given composition. It is your first impression that is important in this grading technique. Do not compare notes with any other reader. Work independently; work quickly.

Appendix 9

Kaplan's discourse analysis model

The text Kaplan (1986) used for his discourse analysis is repeated below:

The term grammar is frequently used to cover a number of different phenomena. Each adult speaker of a language clearly has some type of "mental grammar"; that is, a form of internal linguistic knowledge which operates in the production and recognition of appropriately structured expressions in that language. This "grammar" is subconscious and is not the result of any teaching. A second, and quite different, concept of "grammar" involves what might be considered "linguistic etiquette"; that is, the identification of the "proper" or "best" structures to be used in a language. A third view of "grammar" involves the study and analysis of the structures found in a language, usually with the aim of establishing a description of the grammar of English, for example, as distinct from the grammar of Russian or French or any other language. There are, in fact, other ways in which the term grammar may be used. However, given these three concepts, we can say that, in general, the first may be of most interest to a psychologist, since it deals with what goes on in people's minds, the second may be of interest to a sociologist, since it has to do with people's social attitudes and values, while the third is what occupies many linguists, since the concern is with the nature of language, often independently of the users of the language. [Yule, G. 1985. The study of language. Cambridge: Cambridge University Press. 69. Slight editing added.]

Kaplan (1986)'s discourse analysis model is as follows:

DISCOURSE TOPIC: The term grammar is frequently used to cover a number of different phenomena.

I. FIRST DISCOURSE UNIT (Sub-topic): Each adult speaker of a language clearly has some type of "mental grammar"; [linked on specification of "mental grammar" as one of the generalized phenomena in the DT; repetition of grammar.]

1. SPECIFICATION/EXEMPLIFICATION OF DUI: that is, a form of internal lingusitic knowledge which operates in the production and recognition of appropriately structures expressions in that language [linked on that is; semantic equation between mental grammar and internal linguistic knowledge; specification (definite) that language from a language in DUI.]

A. SUBORDINATE MARKER OF DUI: This "grammar" is subconscious and is not the result of any teaching. [Linked on specification/definiteness in this "grammar" from grammar in DT, "mental grammar" in DUI; Semantic relationship between mental in DUI and subconscious.

II. SECOND DISCOURSE UNIT: A second, and quite different, concept of "grammar" involves what might be considered "linguistic etiquette"; [coordinate unit with DUI, linked on specification of second, repetition of "grammar".]

1.SPECIFICATION/EXEMPLIFICATION OF DUII: that is , the identification of the "proper" or "best" structures to used in a language. [linked on parallelism of structure with DUII, transitional signal that is, semantic eqivalence between etiquette and best/proper , repetition of a language.]

III. THIRD DISCOURSE UNIT: A third view of "grammar" involves the study and analysis of the structures found in a language...[Coordinated with DUI, II; linked on sequence implicit in third, repetition of "grammar", parallel grammatical structure in a second...concept of grammar/a third view of grammar,]

a. ...usually with the aim of establishing a description of the grammar of English, for example, as distinct from the grammar of Russian or French or any other language. [linked on usually (as modifier of aim, repetition of grammar.) Implicit specification of English, French, Russian, as particular languages, subsets of a language, generalization of the subset through any other language.]

IV. FOURTH DISCOURSE UNIT: There are, in fact, other ways in which the term grammar may be used. [Corordinate with DUI, II, III; generalization of other ways, in addition to the 3 already specified--transition to next unit.]

V. FIFTH DISCOURSE UNIT: However, given these three concepts, we may say that, in general...[Coordinate unit with DUI, II, III, IV; linked on these three concepts, contrastive on however--showing topic shift.]

1. SUBORDINATE MARKER OF DUV: ...the first may be of most interest to psychologist...[Linked on the first--of preceding 3.]

   a. ...since it deals with what goes on in people's minds...[Linked on transitional since, equasion between psychologist/people's minds.]

2. SUBORDINATE MARKER OF DUV: ...the second may be of interest to a sociologist...[Linked on the second--of preceding 3; exact parallel structure.]

   a. since it has to with people's social attitudes and values...[Linked on transitional since equation between sociologist/people's social attitides and values, close parallelism with V, 1, a.]

3. SUBORDINATE MARKER OF DUV: While the third is what occupies many linguists...[Linked on transition marker while, the third --of preceding 3, parallel construction with DUV, 1, a/DUV, 2, a.]

   a. ...since the concern is with the nature of language...[Linked on since, equation between linguists/nature of language", shadow parallel structure.]

      (1) ...often independently of the users of the language. [Linked on transitional marker often, contrast with "speaker of a language" "structures to be used in a language" in DUI, DUII, 1.]

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